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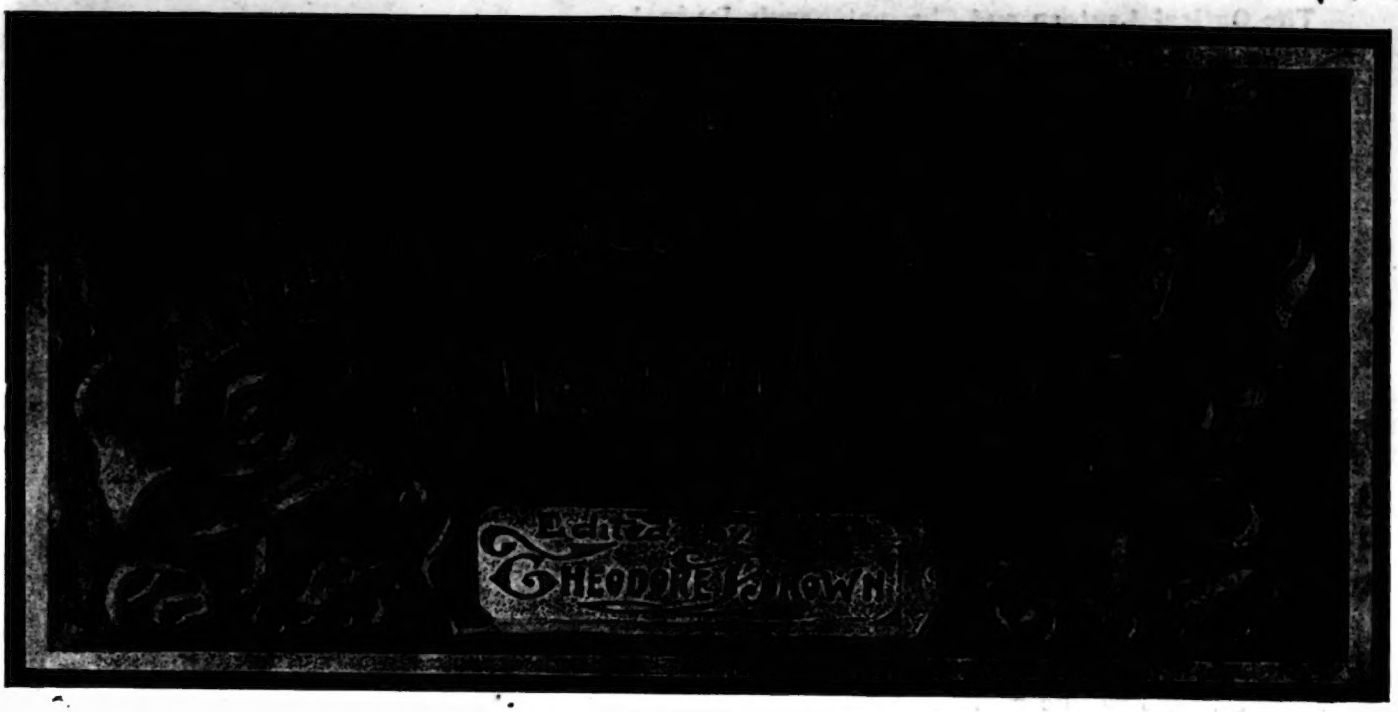


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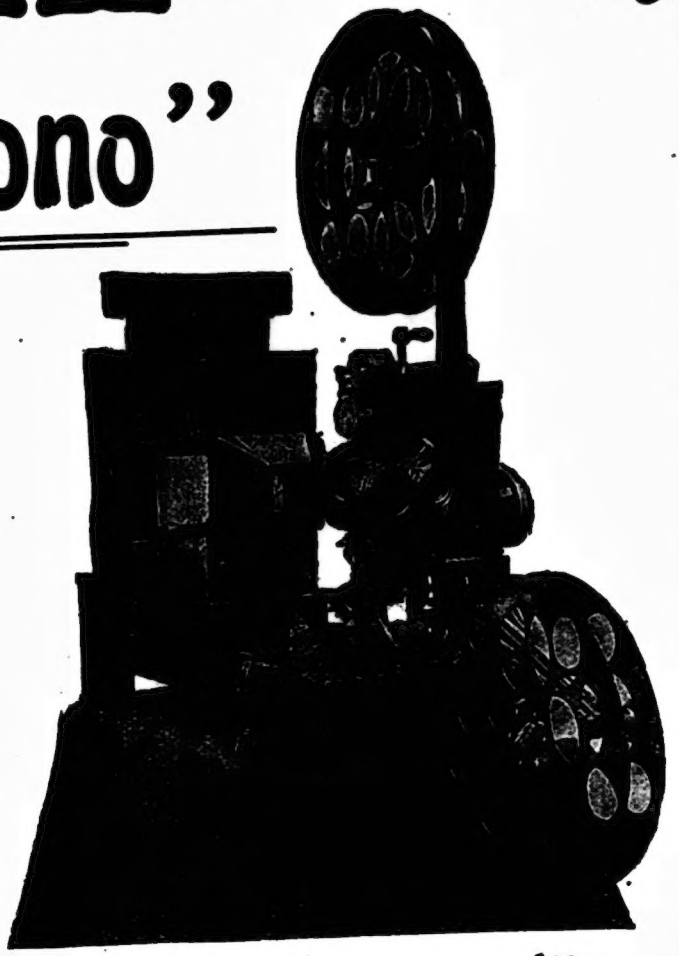

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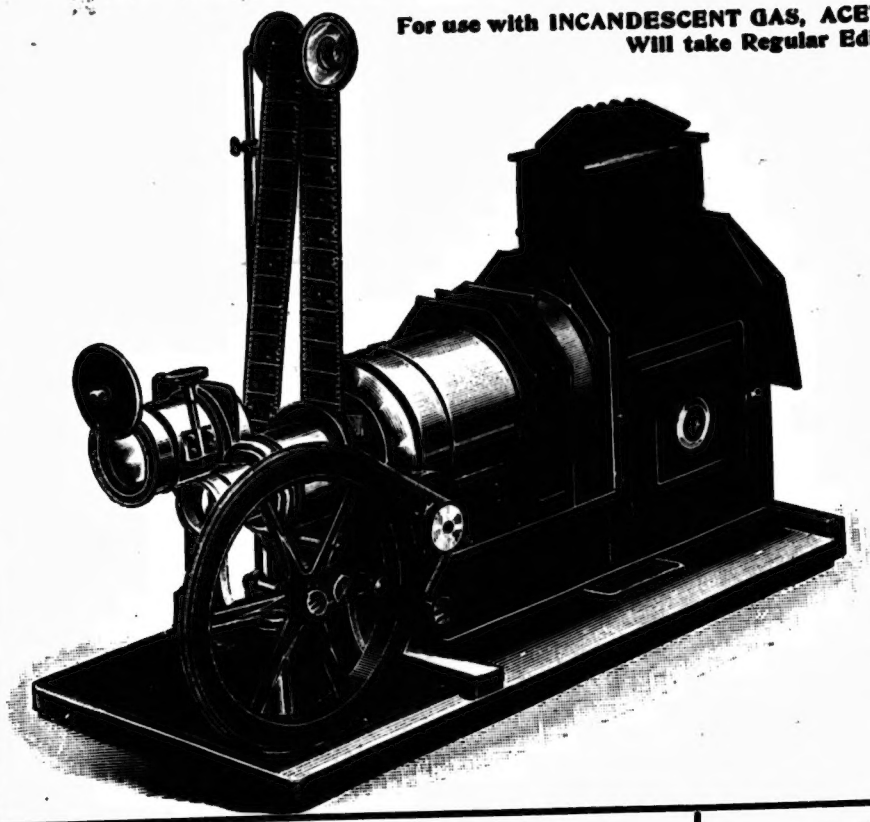

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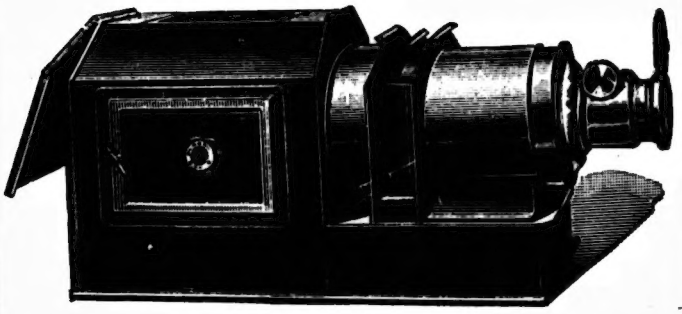

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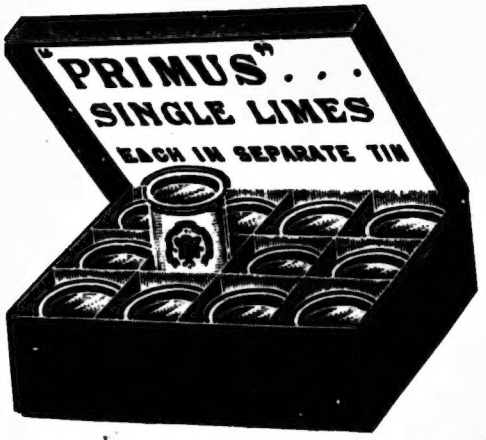


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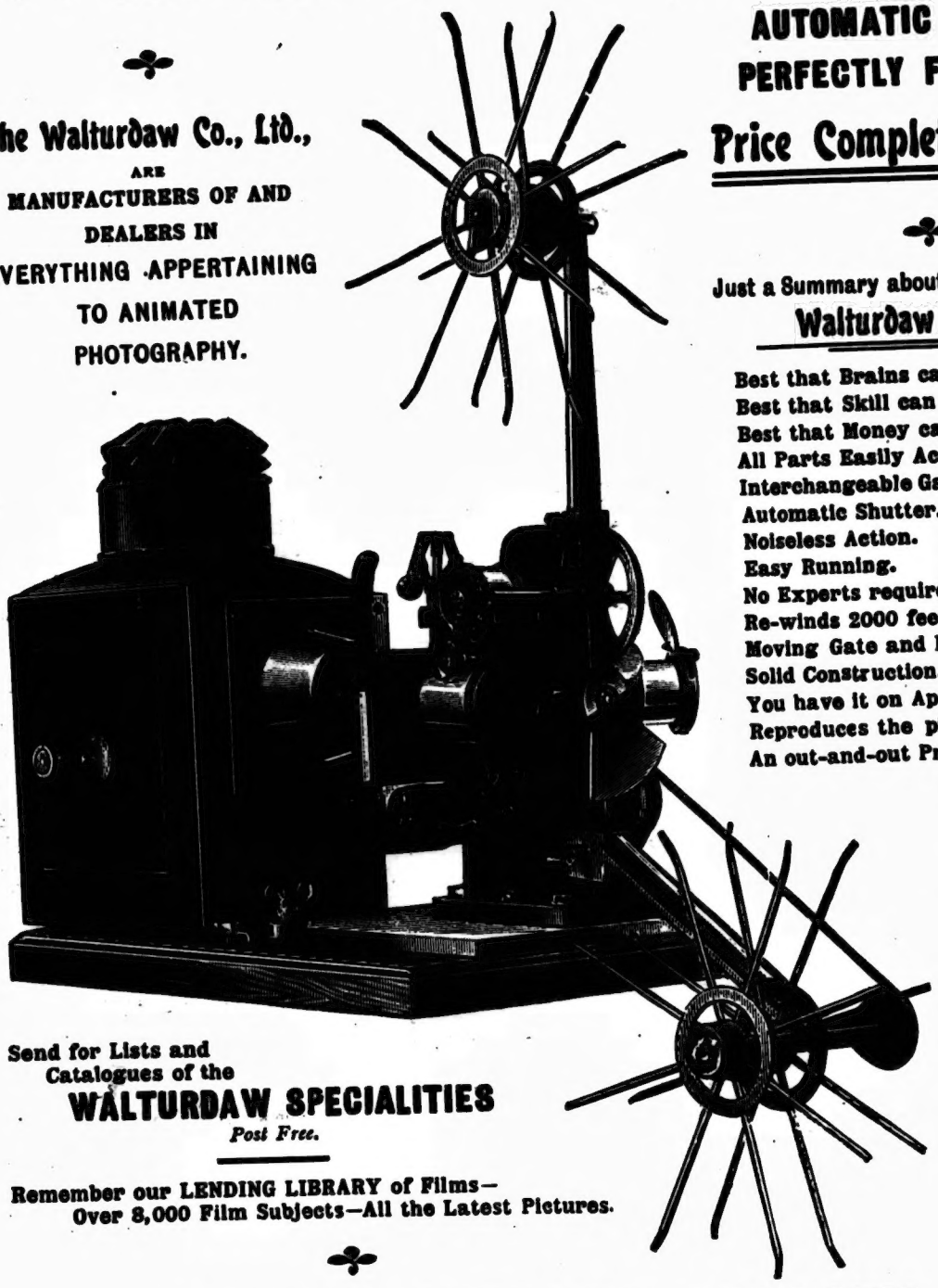

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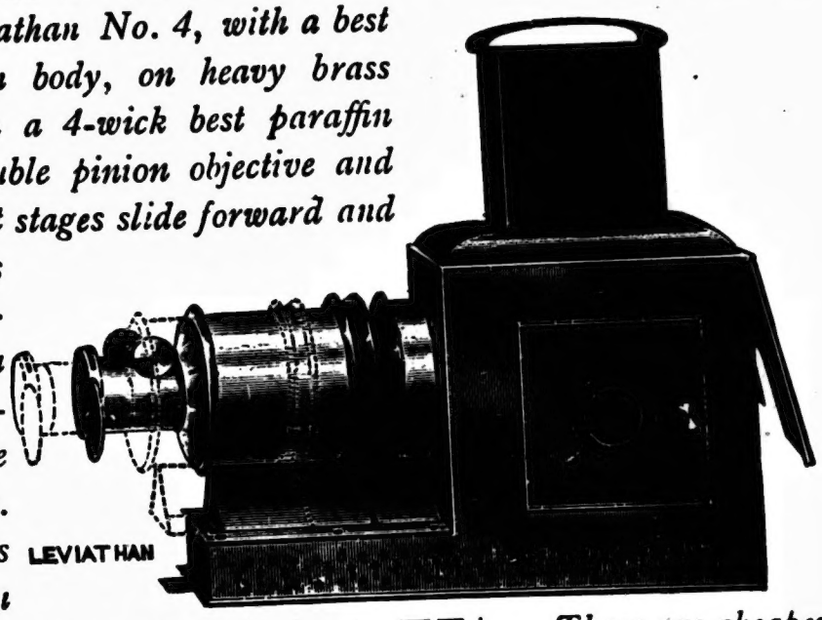

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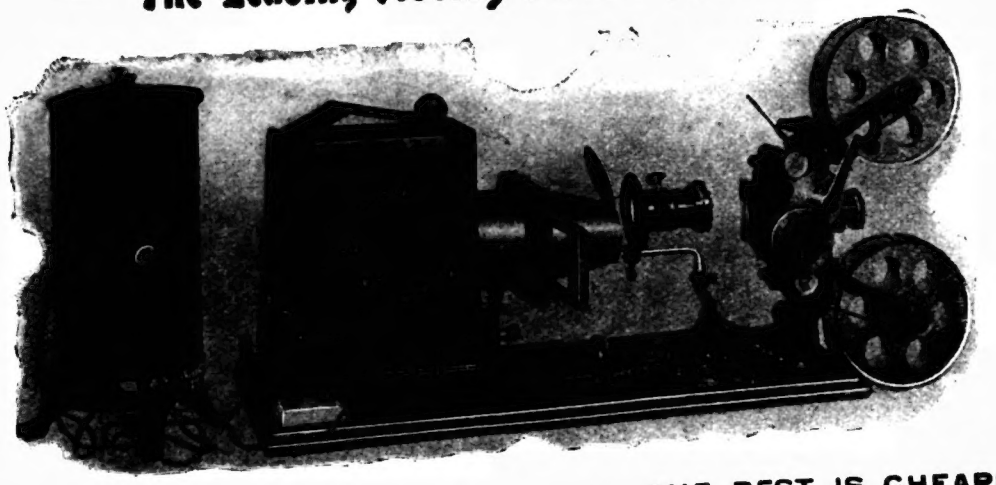

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**European Headquarters for Edison Laboratory Products.**

THE complimentary letters we have received have been both numerous and gratifying. Already we have subscribers in Finland, Russia, Corsica, and several in Germany and France, and it is a pleasure to note their interest does not end with the mere subscription, but that lengthy letters on subjects patent to our pages, and excellent suggestions for increasing the success of the journal are enclosed. Nothing cheers the heart of an Editor so much as the knowledge that his labours are deserving of commendation, and nothing assists him more in increasing the scope of his journal as the individual help of his readers. His services are always at their disposal in placing knotty questions in the right channel for correct solution, and our pages are at all times open to matters of interest to the profession or trade.

We have been to some pains to get a concensus of opinion as to the state of the trade during what is considered the busiest month of the year. It might be summed up in the ambiguous phrase "fairly good." Taking the lantern trade first, we found the demand for the cheaper grade of toy lanterns still steadily on the decrease, but the trade in the slides and accessories, doubtless owing to the improvements in their manufacture, had received a slight revival, notwithstanding the cutting prices of some of the toy shops and stores. The numerous lantern lectures throughout the country, and the easier methods of powerfully illuminating the lanterns, has given a fillip to this industry, and those firms who have come along with methods of employing acetylene, electricity, and spirit vapours, with such excellent results at a small cost for apparatus, are reaping rich reward.

In the moving picture trade competition has greatly increased. The introduction of the instalment system for the purchase of projectors, accessories and films, and the initiation of "lending libraries," has done much to popularise these for private use, and doubtless a very large trade will be done in this way when the general public becomes fully aware of the entertainments they can provide in such easy fashion. The "showman" has already caught on to both schemes, as one can see by the welcome change of programme. Coming back to the cheap German made lantern, with its bands of lithographed films, the mention of this to our trade friends has been like the proverbial red rag held out to a mad bull. They all agree that there is a steady demand for a serviceable cheap form of moving picture lantern, but the majority of the firms have held aloof from the very cheap toys, which are creating a demand for a better article at a slightly increased price. The emporiums which make a speciality of Christmas goods however, have done well with these toys, and we know of one which twice wired off for further supplies. This should urge our manufacturers to efforts in what will be a profitable venture to those first in the field with a really serviceable cheap projector for home use. Manufacturers will do well to take this to heart; for although amateurs may not be induced to go in for taking original subjects, second-hand and out-of-date picture films are selling at a remarkably low price, enabling a lengthy programme to be provided at a very small outlay, as far as the cost of pictures is concerned.

As an entertainer and educator, the cinematograph is universally acknowledged to be in the front rank of modern invention, but as a means of strengthening the hands of a company directorate we had not before seen it utilized. The North Borneo Company gave its annual dinner at the Hotel Cecil last month, and whilst the guests smoked North Borneo cigars and drank North Borneo coffee, a number of bioscopic views of Northern Borneo were thrown on the screen. The managers of the Company specially commissioned the Urban Company to visit the country and take the views, and a better way of bringing the shareholders into a direct knowledge of the country and usages where their money was invested could not be found.

In view of the enormous number of lectures delivered with the aid of the lantern, during the past month, it would be madness to suspect a decline in the trade. Did space permit we could show evidence that would prove encouraging to the most pessimistic dealer. Professors, doctors and clergymen, have been very much in evidence upon the platform, dealing out to their crowded audiences, facts pertaining to almost every conceivable subject under the sun. Many of these lectures have been supplemented, not merely with ordinary lantern slides, but also with cinematograph pictures. Lecturers, especially those of a progressive disposition; begin to realise the unqualified success obtainable through the use of the cinematograph; and it is evident from the increasing use of this instrument that scientist's appreciate its merits for demonstations of moving subjects.

A contemporary recently, in a lengthy diatribe on cinematograph accidents, was distinctly amusing. After attributing the smaller number of fires to the increased knowledge of the operators and the stringent conditions imposed by the County Councils, it wound up by informing its readers that—"a film of a non-inflammable nature, as thin and flexible as celluloid, is yet a desideratum—accidents are better avoided than remedied afterwards." It would be interesting to learn how many thousands of times this has been urged in every conceivable paper and magazine, and yet we are as far from the achievement as ever. Not, however, from want of experiment or serious thought, for hardly a week goes by but a fresh material is suggested. To the man who gets home first a fortune is assured.

The Press needs educating to the fact that the cinematograph when properly managed with ordinary care is no more dangerous than other forms of entertainment. Take the alarmist paragraph which we reprint from *The Western Herald*, of Plymouth, Dec. 6th.

"THE CINEMATOGRAPH DANGER.

"During a cinematograph entertainment illustrative of the life of Christ, at the Salvation Army Barracks, Dudley, the lantern exploded and a mass of flame enveloped the place under the gallery. The panic which followed was indescribable. The audience was mainly composed of children and a wild rush ensued. Happily the Army officials kept cool and the place was cleared without anybody being seriously injured. The lantern was destroyed and other damage done."

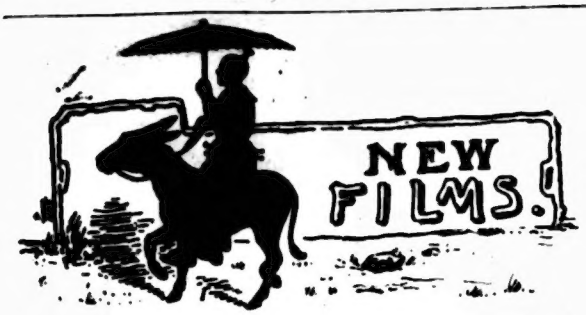
Such phrases as "cinematograph danger," "lantern exploded," "mass of flame," "panic," "wild rush," are the choice terms frequently used to frighten the public from attending living picture shows and generally the paragraphs terminate with the fact that no one was injured and no damage done.

Not only do we get this treatment in connection with cinematograph shows, but the following, culled from last week's "Star," shows how the journalist strives for effect at the expense of lantern entertainments.

"LIMELIGHT SHOW SCARE.

"A panic was narrowly averted during a limelight entertainment in St. Andrew's Parish Church Hall, Glasgow, last night. The lantern exploded, and the film at once burst into flame. The hall was crowded by 500 children and teachers. The latter shouted to the children to remain seated, and the fire brigade drove np as the hall was being emptied, but their services were not required. Fortunately the hall was almost level with the street, and none of the children was injured although somewhat frightened."

BRITISH MUSEUM




By the time these sentences are read, we shall have started on another year, and once again we are reminded how quickly time is passing. It would be a bold man who would prophecy at the commencement of the present year what improvements we should see in the art of Cinematography before it close. That there are vast and important fields for the Cinematograph to conquer is open to no question, and already we have heard suggestions and new ideas, which only need development to be put on the market.

The progress manifested during the past year has been most marked in several directions. To our mind, the films have been of greater interest than formerly, and have been far more carefully stage-managed, whilst the steadiness of the reproductions has been very much improved. We must, however, say that in one important direction this year does not compare favourably with its predecessors, viz., in the matter of Christmas Pantomimes. The subjects have been extremely scarce and there has been nothing on the market this year to compare, in our estimation, with such films as "Bluebeard," "Cinderella," "Red Riding Hood," etc., etc.

During the past month Messrs. Hepworth & Co. have brought out three or four very good subjects indeed, one, entitled "A Den of Thieves," being a dramatic tale told in a number of scenes, representing the theft of a cheque from an envelope which is steamed by a maidservant, who informs her burglar confederates that the cheque is cashed, with the result that they enter the house and attempt to steal the proceeds. Another, of a comic nature, is called "An Elopement by Ambulance." This is very well worked out, some of the situations being very ludicrous. It is of a lighter vein to the film previously mentioned. Perhaps one of their best subjects is a shorter film, "A Race for a Kiss," in which the competitors are seen competing against each other, one is a motor car, while the other is seated on the back of a thoroughbred horse. In this film the advantage is made to rest with the horseman, but whether this would be actually the case in reality is open to doubt. However the film ends satisfactorily with the favoured one receiving his reward.

Messrs. Gaumont & Co. are to be congratulated in securing the exclusive Agency for American, British and German Biographs in this county, and we understand that one of the films thus exploited by them, entitled "Personal," has created a decided hit, and is greeted with great applause by the audience who throng the Empire, Leicester Square. Another film of a seasonable character is "The Mistletoe Bough." This tale is well-known to everybody in England: in fact the haunting melody with which the song of the same name is accompanied is practically heard every Christmas all over the country. We must congratulate Messrs. Gaumont & Co. on selecting such an appropriate Christmas subject for adaption to Cinematographs. We are pleased to note that their enterprise is being rewarded and that the film is having a large and ready sale. We feel certain that the British public appreciates animated illustrations of those tales which they have been taught in earliest infancy, and are closely associated with the Christmas season.

Messss. Pathe Freres have been good enough to show us several of their latest subjects, amongst which are exceedingly clever representations of battle incidents in Manchuria. Of the several they showed us we should select as the best, one called "At Mukden," in which a realistic effect is produced of a fort being blown up. The quality is good and the reproduction of the battle incidents have been very cleverly effected, and as far as possible they have avoided any appearance of absurdity. Another comic of theirs, "The Cheeky Traveller," is one of the best we have seen this month, illustrating the discomfort of a railway traveller who is annoyed and worried by a companion in the same compartment. The way Messrs. Pathe Freres have introduced the effect when the gas lamp in the carriage is obscured or displayed is very good, and it is altogether on a par with the films that we are in the habit of seeing from this well-known firm.

Mr. R. W. Paul is selling a very good comic film, though rather long, entitled "The chase of a Maniac." This poor unfortunate lunatic is under the impression that he is Napoleon Buonaparte, and, having escaped from the asylum, in an appropriate costume, with the well-known three-cornered hat, goes through a number of adventures while being chased by the warders. The circumstance which afforded us every time a hearty laugh was that, when most hotly pursued by the warders, he finds time to assume the well-known Napoleonic attitude of folding his arms and standing erect, apparently immersed in thought, for a few seconds. The quality is very good, and those wishing to secure a

humorous subject might do far worse than purchase a copy of this subject.

THE Warwick Trading Co., Ltd., have placed on the market an extremely good comic film, which is not unduly long, entitled "Tramps in Clover." The way in which the two tramps formulate a scheme for obtaining a prime joint of beef, and the manner in which they avoid arrest and ultimately succeed in roasting and devouring their repast, is excellent. We hear that they have sold a large number of copies already, and anticipate larger requirements. It is thoroughly humorous, and, as are all the films of this firm, it is entirely free from any touch of vulgarity. They are also in possession of a film which closely approximates the Christmas pantomimes, the title of which is "The Ex-Convict: or, how he got his Christmas Dinner." This story is in very close touch with the situation of the present day, when there are so many men out of work who find it hard to secure the necessary money for a Christmas meal. The man in question loses his position owing to his having been a convict, and being unable to provide references, is turned away from any opening which may present itself. In the course of his wanderings he is instrumental in saving the life of the child of a well-known employer of labour and a millionaire. In the confusion after the rescue, he disappears without being recognised, and the next scenes show him at home with a sick child and hungry wife. Finally, in desperation, he resolves to return to his old occupation of housebreaking, and enters the house of the millionaire, whose daughter he had saved. The proprietor awakes, and holding him up at the muzzle of a revolver, telephones for the police. His little daughter, however, being awakened, comes down and recognises the burglar as her preserver, whereupon the father refuses to prosecute, finds the man a situation in which he can honestly earn his living, and on Christmas morning goes to the humble home where he lives, together with his wife and little child, and sees that they want for nothing in the way of Christmas fare. In the scene where the man is breaking into the millionaire's house, there is a beautiful snow-storm effect, and also when the Christmas presents are being taken to the abode of the ex-burglar.

BY the kindness of Mr. Marion, the energetic advertising manager of the Edison Manufacturing Company, we had the opportunity this month of seeing the wonderful film, "The Parsifal," one of the longest series we remember. We should like to see a music-hall manager bold enough to give this high-class and intellectual film, with its accompanying marvellous music. We quite believe it would warrant the initial expense, and prove a success. Wonderful scenery, clever acting, and a desire to reproduce the most effective points in the best way, make this quite unique, and we advise anyone wishing to add to the tone of their show to give this series a trial.

# Correspondence.

## ARE THE PRICES OF FILMS EXTORTIONATE?

Dear Sir,—I have been surprised at the prices asked by manufacturers for films, without regard to the subject. Take any list, and you will see a subject which could not at the outside have cost 10/- to stage, next to one that cost a small fortune to produce in its varying scenes, and yet the price is the same—6d a foot. Does this not prove that the high price charged is unwarranted in many cases, or how else can the matter be explained?—Yours, &c., R. H. PIPE. 53, Ramsey Road, Forest Gate.

Dear Sir,—I thank you very much for the copy of the "Optical Lantern and Cinematograph Journal." It is the very thing that is required, and I think it ought to be in the hands of every operator of a lantern.—Yours faithfully, E. ROGAN, 65, Wood Street Cardiff.

Dear Sir,—I thank you for the copy of your paper, and am very glad to see that you again take up the optical lantern science. I herewith enclose cheque for 4/- for one year.—Yours, &c., K. ROSSANDER, Helsingfors, Finland.

Dear Sir,—Thanks for copy of "Optical Lantern and Cinematograph Journal," which, if you will allow me to say so, is a vast improvement on your previous issue in May, and I hope it will meet with every success.—Yours, &c., THOS. C. SMITH.

Dear Sir,—The Journal seems to me to be a decided improvement, not only on its predecessors, but on the May number, and I trust that a profitable career lies before it.—Yours, &c., W. H. GOLDING.

Dear Sir,—Many thanks for No. 2 of the "Optical Lantern and Cinematograph Journal." It is a capital number, and if you keep its interest at the same level the thing must be a success. I shall certainly be a subscriber.—Yours, &c., H. T. ASHBY 8, Bartholomew Road, London, N W.

# WINTER WORK.

By Rev. T. PERKINS.

THERE are many photographers who look on winter exclusively as a time for making enlargements by artificial light from their summer negatives, or printing lantern slides by contact. True it is that each of these employments is a very fascinating one, especially to a photographer who lives as I do in what the aborigines graphically describe as an "outstep" place, where, when once the sun has set, and the curtains have been drawn, a ring at the front door bell is scarcely ever heard; where concerts and other entertainments rarely take place, where a lantern lecture given by myself in the village school is almost the only event outside the house to break the monotony of the evenings. What a boon to those situated like myself is the making of lantern slides, and the trying of them when made, the selection of the best of them for sending round in the boxes belonging to a postal lantern slide exchange club, of which one is a member. And again, the projection on an imperial sheet of cardboard of the slides contributed by oneself and others, when one of these boxes on its round is brought by the unwilling postman, who says he wishes no such things as postal slide clubs had ever been invented, burdening him as they do, every now and again, with parcels nearly approaching the maximum weight allowed by the parcel post regulations.

But the photographer, who thus confines his attention to reproducing the negatives taken during some summer holiday, who puts his camera and lenses away when the bicycle lamps have to be lit, soon after five o'clock, makes a great mistake, as some of the most beautiful effects of nature are to be met with during the winter months. It is recognised by all pictorial photographers that the very worst time for making exposures is when the sun, high in the heavens, is shining from an unclouded sky, and that the most pictorial results in summer are to be obtained in the early morning when the trees cast their long shadows across the dewy grass or when the sun is sinking to his rest. Unfortunately in the summer it entails very early rising to get the best morning effects and it is not every one who can get sufficient sleep before four a.m.

In the winter, however, the sun is lazier, and his time of getting up approximates more closely to that of the majority of human beings, so there is less difficulty in securing a record of early morning effects on the negative plate. Moreover mists are more frequent, and the pictorial value of mist cannot well be overrated, whether it is spread in level sheets over the lowland meadows, from which the sunlit trees rise majestically, or lies thick in the woodlands, softening the outlines of the more distant trunks and destroying the wire-like appearance of the finer branches of leafless trees. In towns, too, the fogs in winter obliterate the hard unlovely details of the buildings, and clothe with a half concealing veil the commonplace which the brilliant summer sun reveals in all its hideousness.

To the architectural photographer the low altitude of the winter sun, even when on the meridian, is a positive advantage. The detail of carving round the south door situated within a porch is lit up as it never is in summer; the more level sunbeams also light up the north aisles seen from the inside of a building, and the contrasts between light and shadow are not so harsh, and moreover if the ground outside is covered with snow, the light scattered from its surface shooting upwards through the clerestory windows, often reveals the beauties of a dark timber roof or stone vaulting, which can with difficulty be

photographed when the sun is high in the heavens. The heavy foliage of trees near a building often hides too much of the building or throws shadows on the walls so that it is difficult to photograph details.

Then, again, how beautiful are the effects of hoar frost and snow. The beauty of the former is only seen to perfection when the day is free from wind, the latter is best taken when the surface has been broken up by traffic, and the sun is shining on it so as to give it relief. I know nothing which looks more beautiful on the screen than a view of broken snow, where the delicate shadows in the hollow contrast with the high lights of the sun lit ridges, and the half tones of the sky or cloud, to secure which in perfection an ortho-chromatic plate must be used, allow the sun lit snow to be seen as the highest light.

The idea that negative making has to be confined to spring, summer, and early autumn is a survival from the old days when lenses for landscape work had to be much stopped down, and when plates required an exposure of as many minutes as modern plates require seconds. The area of that part of a slide that is projected on the screen rarely exceeds 3 by 2 inches, so that a lens of not more than 3 to 4 inches focus can almost always be used, and there are plenty of lenses of this focus that will give all the definition required with a stop of $\frac{f}{5.6}$ with which if a fairly rapid plate is used no very long exposure will be needed even in winter light. It is not of course on all days in winter that plates can be exposed with advantage, but they are more numerous than many suppose.

Negative plates can be well developed on winter evenings in the comfort of an ordinary room, in which a fire is burning, by the help of a dark room lamp, and when the negatives are dry, slides can easily be made and developed in the same room by merely turning up the gas or lighting an oil lamp for the exposure, and turning them down during development. It is not everyone who can spare in his house a fair-sized room to set apart as a dark room for use during the hours of day-light, and so many have to be content with some cramped space, little more than a cupboard in size; to such a one, how great and pleasant a change it is to be able to develop negatives and slides in comfort in a well warmed room of moderate size, as he can do during the long hours of a winter evening.

## HOW TO OBVIATE THE ACQUIREMENT OF COVER-GLASSES AT A PENNY EACH.

A PLEASANT and easy way of treating dull flat lantern slides, says a writer in this month's *Photogram*, is as follows:—Having thoroughly—and let that word be italicised—thoroughly washed the slide free from hypo, let it soak in a saturated solution of bi-chloride of mercury (corrosive sublimate), which has been slightly acidified with hydrochloric acid, until the surface is bleached. If the plate is dry, keep it in water for fifteen minutes before soaking. This operation is just like ordinary intensification, save that, unless the slide is very dull, the bleaching should not be allowed to penetrate to the glass.

Now wash again thoroughly, and lay it in a dish of water that has had enough liquid ammonia (not the white solid ammonia of commerce) added to it to make it smell slightly. Allow the slide to stand in this bath until every trace of white has been replaced by a delicately warm brown tone, which is well suited to the softness of the slide.

If too strong ammonia be used, the picture will be blackened, with a risk of becoming too dense. The "browning" may occupy two or three hours, but do not hurry it; the result will repay the waiting, and a slide which was in danger of conversion into a cover-glass will stand a good chance of receiving a "round of applause" on its appearance on the screen.

# THE CARBON PROCESS FOR LANTERN SLIDES.

THE amateur who, in the first instance, takes his negatives of the right size for contact printing, will be in a position to utilize the carbon process with very little trouble, providing the negatives are tolerably free from yellowness and stains, for these defects raise an insuperable barrier to carbon work; but provided they are fairly good, no process is more pleasant and easy to work, or repays the worker with more charming results than does the carbon process. The fact of the positives being reversed is not of the same consequence with a lantern slide as it is with a print on an opaque support, and they can be marked suitably to show right way on the screen.

A negative developed with hydroquonine or any developer producing a black or grey image, is generally preferable to those developed with pyrogallol and soda for this kind of printing, as the least tinge of yellowness lengthens the exposures out of proportion to the apparent density; it is on this account, that is, freedom from yellowness, that collodion negatives are usually preferred where such carbon work is carried on, more particularly for enlargements. A special style of carbon tissue is sold, termed transparency tissue, which is suitable for the lantern, and it may be had either sensitized or not. I should certainly advise the purchase of the unsensitized, and then it can be prepared to suit the class of negatives to be used with it, by a stronger or weaker solution of bichromate of potash, a thin negative requiring a weak bath, and a hard negative a stronger one.

The chemical manipulations in this process are reduced to the smallest possible quantity, being limited to a mere solution of bichromate of potash in water, with a little ammonia added, and a final bath of alum and water to harden the gelatine. The sensitizing of the tissue is a simple matter and may be performed in ordinary daylight, as may nearly all the manipulations required.

The tissue is cut into convenient sized pieces, and immersed bodily into the bichromate potash solution until thoroughly limp—this takes a minute or two—it is then squeezed carefully down on to a smooth surface and set to dry. A piece of glass free from scratches is as good as anything. The glass require a certain amount of preparation to prevent the tissue sticking, or access of light during drying. In the first place clean a piece of plate glass and paint over one side with black varnish, or paste a piece of black or opaque paper over it; but whichever plan is adopted see that there are no holes in the paper or thin brush marks in the varnish through which light could get access to the tissue attached in process of drying. Rub the plain side of the glass with a little beeswax dissolved in benzoline or turpentine and polish off with a soft rag. The glass is now in a condition to receive the tissue, which, wet and limp from the bichromate solution is carefully laid down upon it, avoiding air bubbles, and squeezed into close contact.

Light has no, or very little action on the tissue whilst it is wet, but in order to prevent injury when it becomes dry, a piece of orange or opaque paper stuck on the back of the tissue after squeezing it down will make it absolutely safe in any light less than direct sunshine.

A patent has been recently acquired for staining the paper support of the pigmented gelatine, saving this trouble, but as the bichromate of potash is of itself a strong yellow, the tissue is practically safe without anything of the kind in an ordinary room away from the direct light of the window, and I am very doubtful if even that would do much harm. It is, however, just as well to be careful, for it is no trouble to keep the tissue in a subdued light than in a bright one until it is dry, and will strip off the glass without trouble or sticking as soon as this state of dryness is reached, which of course depends on the dryness of the atmosphere and the ventilation of the apartment. In most living rooms tissue sensitized at night would be perfectly dry in the morning in an average temperature, excessive heat being avoided. If gas is burnt the tissue should not be put on any shelf near the ceiling, but it is best to dry in a room without gas, too rapid drying produces a reticulated appearance of the film fatal to lantern slides, and also gives rise to inequalities in development; a temperature of between 60 and 70 F. is best.

The drying having been satisfactorily accomplished, cut up the tissue into proper sized pieces an eighth of an inch all round less than the slide glass to which they are to be finally attached; it may be cut with sharp scissors after removal from the waxed glass, or with a sharp knife before its removal, which is the preferable method, as then the surface will be less in danger from finger marks, which lead to trouble; but whichever way is selected do not finger the surface more than can possibly be avoided. The tissue is now ready for printing and should be enclosed in a light-tight case for use. The negative must be masked down, leaving an opening rather less than the tissue in order to form what is termed a safe edge, that is, a portion of the film unacted on by the light, which has the effect of preventing the image washing up in development.

Now comes the exposure, which in the first instance must be carefully noted, using an actinometer to record it. The time required is about the same for Solio. An actinometer is a little instrument containing a strip of sensitized paper; the Solio answers very well, a small hole in the box containing it allows the light to fall on the strip, which becoming tinted to match with a standard tint painted on the box itself, is pulled forward and a fresh surface exposed. The exposure is called one tint, notice being taken how many tints are required, until the printing is concluded, which when correct, can be repeated with that same negative obtaining identical results as often as required, the negatives being marked so many tints as a guide to future exposures. Of course a little practice will make that easy enough, and negatives by their appearance alone can be classed as requiring the same exposure, even without testing. If the print proves too dark, a tint or two less may be indicated, or if too light, a tint or two more will be required; get it once right, and it will be right always afterwards for that particular negative.

This part having been done, development follows, which is a mere matter of warm water and plenty of it. In the first place get the prints together, also a stock of lantern glass perfectly clean, and place them conveniently to hand. A large basin of clean cold water, a small piece of mackintosh or waterproof cloth, and a squeegee are all that is required. Take a print, place it face down in the water, it will first curl with the pigmented side inwards, soon it will flatten out and begin to curl in the opposite direction; at this stage take it out of the water, and lay it accurately on the lantern glass, where it is intended to remain. Keeping it in position by the finger end, press it with the squeegee to in some degree fix it on the glass, lay over it the mackintosh, and firmly and gently work the squeegee from centre to outside to squeeze out the moisture and air bells. If any bubbles of air remain each one will produce a defect on the slide, so it is most important to get rid of them; they can be easily seen as silvery spots through the glass, and unless they can be pressed out without much trouble it is better to remove the tissue, dip in the water, and put down afresh, for wherever they occur the tissue will leave the glass and a hole will result.

The print now being attached to the glass, put it on one side and proceed with the next print, laying it face down on the one previously done until a small heap has accumulated; leave them so for a quarter of an hour or twenty minutes to set, then begin the development by placing a print and glass in warm water, glass side downwards, wait until the colouring matter oozes out from the edges of the paper, which will be a minute or two, according to the warmth of the water. When this takes place, take hold of one corner of

the paper and gently strip it off without using force, if it sticks at all it has not soaked sufficiently long, to use force would injure the film. The paper backing removed, a smart plentiful dashing of warm water over the pigmented surface will remove the soluble parts and leave the prints in all its integrity. If too dark use hot water to reduce it, but if too light, a longer printing is indicated, or a longer time before printing and developing. In all cases apply the water until the print is clear and entirely free from crapiness, then place it face up in a dish of alum and water of a strength of an ounce of alum to a pint of water for ten minutes or a quarter of an hour, afterwards rinse well in clean water to remove the alum, and set on edge to dry in a place free from dust.

Providing the exposure and development have been successfully accomplished, we have a lantern slide second to none for delicacy and brilliance.

In all single transfer processes the carbon image is of course reversed, unless the negative is reversed in the first instance. With lantern slides this is of no matter, the only precaution necessary is to mark the slides accordingly.

The mounting and binding is precisely the same as for any other kind of lantern slide.

The absence of all chemical treatment makes this process one of the most simple, as well as most permanent. One gets the right exposure—not very difficult—and the rest is plain sailing. Where the beginner is most likely to fail, providing the exposure has been correct, is in the stripping the paper from the pigment after transferring; if done at too early a stage, partial sticking will result, and the delicate carbon image will be damaged. Again, in squeegeeing the tissue into contact with the glass, if done too roughly or imperfectly, enclosing air bubbles, mischief will occur; also careful adjustment of the tissues on the slide glass, especially with architectural subjects, to ensure their being upright on the screen. Too dark prints may be improved by the free use of hot water, and too light ones, provided they have been sufficiently exposed to secure detail, may be darkened by any suitable dye.

When the amateur has mastered the process, he may make a little diversion for himself in the following manner. Provide perfectly clean lantern glasses, and coat them with a very strong, warm solution of clear gelatine, to which a little liquid china ink has been added; lay them on a perfectly level surface to dry, then place these dried and gelatine coated plates in a solution (1½ to 20) of bichromate of potash for five minutes and dry in the dark. These plates can now be used in a printing frame to contact with a negative like an ordinary lantern plate, but exposed and developed in a simular manner to the tissue; of course this being a direct and not a transfer process, no stripping is required, the film of sensitized being already on the plate, the image will be right way about, as in most other printing processes. Owing to the small quantity of colouring matter—just sufficient to see the image is all there, and properly developed—its intensity and colour must be added by brushing over it suitable analine dyes with a soft brush afterwards.

The artistic abilities of the operator will now have to be exercised to colour the picture (placed on a retouching desk or similar contrivance) suitably to sufficent depth of tint, beginning with the lightest and most delicate colours, and finishing with the more pronounced ones, a clean brush being used for each colour, and letting one tint dry before the application of a second.

It must be borne in mind a carbon picture differs from other kinds in the image being formed from different thicknesses of the same tint, the highest being absolutely bare glass without a trace of gelatine on them, so the application of a dye stains the image equally throughout, and where there is little gelatine there is little colour no matter how strong the dye may be, and where there is considerable thickness, as in the deepest shadows we have deep colouring proportionate to the amount of gelatine. This peculiarity makes a carbon transparency by far the best of any kind for reproductions and enlargement, and when the colouring matter is of a transparent nature, the richness of the image is unsurpassed.

# NOTES ON LANTERN WORK.

By F. E. LANE.

*(Reprinted from Photographic Scraps.)*

ALTHOUGH much has been written on the subject, there is no doubt that the very great scope of the lantern as an educational, instructive, and entertaining power, is by no means yet fully recognized.

Unfortunately in the past, Lantern Shows have been sometimes discredited by the incompetence of the lanternist, or by the slovenly character of the slides shown. These drawbacks, however, only prove the need for more care and education, in both directions, and do not at all tell against the fact that the lantern is a powerful factor in modern civilization, while the making of good lantern slides is one of the most pleasing and useful forms of photography.

A reference to our illustrated papers will show us at a glance the great advance which photography has made in depicting war scenes, and the vast superiority, as regards truth, of the actual photographs now reproduced, as compared with the former sketches of war correspondents. The modern correspondents, when they return, will be fully sensible of the capabilities of photographic lantern slides as a means of giving point to their interesting lectures.

Our fashionable pleasure resorts, which seek to draw visitors, and have publicity and advertising associations for placing the charms of their localities before the public—would be well-advised if they had good sets of photographic lantern slides prepared, showing the beauties of their golf links, their hunting scenes, their local steamboats, motor cars, diagrammatic slides of their health statistics, their archæology, their natural history, flora, fauna, geology, and general attractions from an artistic point of view.

The Railway Companies have been wise in regard to photography, but they might supplement their actual photographs with sets of lantern slides. The large shipping companies might with advantage do the same. Messrs. Thos. Cook and Son have, I believe, long since recognized the importance of this branch, by having lantern sets produced of the attractions of most of their tours. Many of our colonies have done the same as an aid to immigration, while such institutions as the Navy League are thoroughly alive to the usefulness of slides in making known their national work.

No school or college of any importance, at the present day, is thoroughly equipped without its lantern and various sets of slides for use in its class rooms or lecture hall. The introduction of the Nernst electric lamp, which can be used on the ordinary domestic current, and the improvement in acetylene, for use in more remote places, have much simplified the lighting arrangements, and now such subjects as physical geography, botany, zoology, natural history, and many others may be illustrated. Even diagrams from our old friend Euclid are far more interesting on the white screen than on the blackboard, and are, moreover, visible to a larger number.

Then there is the case of our clergy and ministers of all denominations, whose hard-earned holiday is public property, and of interest to us all. They are not expected to visit Switzerland, Norway, or perhaps the Holy Land, without relating to us, on their return, their adventures, and showing us on the screen the scenes of their travels. We know that they will have taken a camera with them, and look forward to having our minds enlarged by a lantern reproduction and full description of whatever has impressed them. Their pleasures are our pleasures, and in a small town or country village we long remember the food for thought and reflection with which they provide us. The private tourist should also not consider the object of his journeyings completed until he has made a set of lantern slides with which he may entertain his friends.

One of the most useful and pleasing decorative forms for the use of lantern slides is very much neglected by the professional man. In his reception room, or office, it is usual to have either frosted or coloured glass screens, or wire blinds, to his lower windows. How much better to have a leaded frame of choice transparencies having some reference to his profession. Pleasing scientific studies might be selected, supplemented by general

views, and the architect or surveyor should have no difficulty in filling his screen with commissions completed, and examples of architecture likely to interest his clients, while similar screens in Town Halls and Municipal Buildings might contain pleasing local views, and improvements representing the expenditure of rates.

As a beginning in this direction, frames to hold transparencies may be easily fitted to windows with very little expense or skill; the wooden casing commonly used for electric wiring forms a capital ready-made grooving. A large quantity can be bought very cheaply, and, sawn lengthwise down the middle, makes perfect grooving to hold the slides. The two pieces have only to be stained and polished or enamelled, and fixed together in lengths to fit the window, the necessary distance being allowed to suit the transparencies.

All lantern slides before being finally bound up, should be soaked in a saturated Solution of Alum, or, better still, Chrome Alum, or in a 10% Solution of Formalin. The gelatine which forms the film of a lantern plate is hygroscopic, and will be affected by changes of moisture in the atmosphere. After getting damp two or three times the gelatine may develop mildew or fungoid, growth. This is partially prevented by the procedure mentioned above, but, in all cases, it is better to store lantern slides in a dry warm atmosphere when not in actual use.

Another purpose to which ordinary Lantern Plates may be applied is the production of Diagrams, Announcements, Sketches, and Titles both of lectures and cinematograph films which perhaps have to be done in a hurry, and for which there is no time to go through the ordinary process of photography.

Take an Ilford Special Lantern Plate, and, by means of a sharp-pointed instrument (a lady's hat-pin, a crochet hook, or a fine brad-awl, sharpened to a point, does admirably), and draw or scratch the writing or drawing on the emulsion side of the plate. This will then shew on the screen as a bright image, with an absolutely black background. Any writing, or even mathematical drawings of lines by means of a ruler, may be easily and quickly done in this way, and announcements of, say the amount of a collection taken up for a charitable object, or a balance sheet, may be there and then shown on the screen.

Another and perhaps even more useful plan may be adopted by preparing the plates beforehand. Take an Ilford Special Lantern Plate, or better still an Ilford Alpha Plate, and without exposing it to ordinary light, simply fix it thoroughly in Hypo Solution in the dark room for about 10 minutes; then wash it well and give it a soaking, for half-an-hour, in a Saturated Solution of Chrome Alum, or even ordinary Alum, or a 10% Solution of Formalin. In the two former cases it must be again washed and then put up to thoroughly dry. Now you have a perfectly clear lantern plate with a *hardened* gelatine coating, the surface of which can be easily written upon with an ordinary pen and ink, or, better still, with liquid Indian ink. Drawings may be made on it, and even thick or thin lines ruled with a draughtsman's pen. There is a further use to which this easily-prepared plate may be put. Its transparent nature will allow any drawing or sketch to be placed under it, and this may be faithfully traced on the plate just in the same way as the old-fashioned transparent drawing-slate of the days of our youth. Anyone interested in lantern work should prepare a few dozen of these plates and keep them for sudden emergencies. Their uses are infinite, and a tyro in drawing can copy any diagram, or sketch, which may be unexpectedly required. Plates prepared by this method will, of course, show the sketch in ink on a white background, but colored inks may be as readily used as black.

## A NEW FORM OF MUSIC HALL MATINEE.

The Alhambra management have hit on a scheme which besides being of a novel character should prove highly attractive to the hundreds who, at this season, are seeking a refined form of entertainment.

On January 9th they will start an entertainment entitled "Urbanora," which will last from three to five o'clock, and will be almost exclusively of a bioscopic character, including pictures of scientific, geographical, and educational interest, blended with others in lighter vein. The programme will be divided into two parts by vocal or instrumental music, or a specially selected "turn." No smoking will be allowed in the auditorium, and afternoon tea will be served. Half price will be charged to all parts of the house except the gallery, which will be closed.

# Queries.

*Readers are requested to write each question as concisely as possible on one side of a separate sheet. Name and address to be given for reference. We are not responsible for the opinion expressed. Readers are invited to reply to Queries, and should state number and title of same.*

10 **Receipt for Film Sticking Solution.**—Can any reader give me a recipe for a film sticking solution? I have to use a quantity for my work, and find it a big expense to purchase the small bottles on the market.—OPERATOR.

11 **Film Maker Wanted.**—I have a projector for home use, and as I do not understand photography wish to have some films made of my family, etc. Is there a firm who make a speciality of carrying this work through, and what is the charge?

12 **Paints for Slides.**—Can any reader tell me where I can obtain paints for slides, and is there a book published on slide painting?

13 **Slide Makers Wanted.** I have a number of negatives taken on my holiday, and I want same made into lantern slides. Can you give me the address of a reliable firm who do this?

11 **"Old Masters" While You Wait.**—In the "Daily Express" I saw a few days ago a report of a so-called Photographic Marvel, the invention of Mr. Otto Fulton. This gentleman in explaining the thing to a representative of the above daily said, "Daguerre had a glimmering of the secret that I have found. The duplex, or double image is an essential part of my process. The print on the surface of the fabric forms the picture when it is viewed by reflected light, but when the photolinol picture serves as a transparency, the image at the back of the fabric come into play and reinforces that on the front. The picture is stereoscopic and both images are produced automatically, simultaneously, and by pure photographic action." Next week, for the first time, cinematograph views will be produced by the process. Will any reader who has witnessed the projection of these effects be kind enough to give his impressions of the whole affair. It seems on the face of it that Mr. Otto Fulton is claiming a lot; and it would, I think, be interesting to most readers, to hear opinions from unbiased persons who have seen the results. Is Mr. Fulton justified in claiming stereoscopic effect for his pictures?—"INTERESTED."

12 **Coating Screen.**—I have made a canvas screen and wish to reduce the coarseness of the calico. What is the best material to coat it with how should I apply it?

13 **Cleaning Negatives.** I have a lot of old negatives and want to clean them and cut down for cover classes. How can I do this?—J. COXILL, Bournemouth.

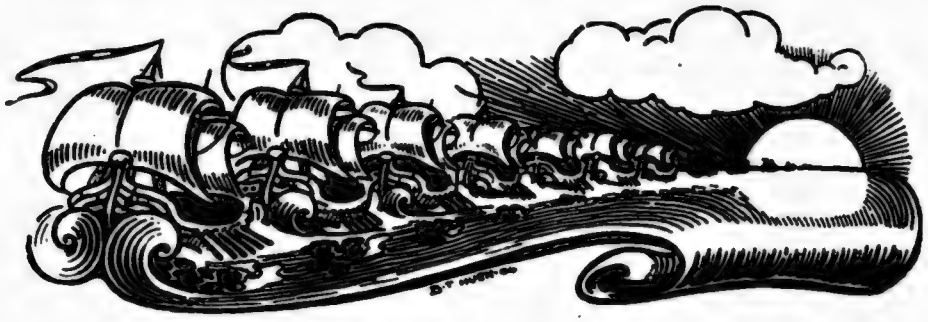
14 **Focussing Lantern Lens.**—I am but an inexperienced lanternist, and seek your aid on one point: I have projecting lenses said to be 5in and 8in. focus: What does this mean in a lantern, in setting up the same? Should the diaphragm plate of lens be, when front is pulled out, 5in. or 8in. (according to lens used) from the slide in position? or 5in. or 8in. from what? For instance, I take the 8in. lens and want to show a 10ft. picture. I set up lantern at 30ft. from the screen; but pulling out or pushing back the front of lantern carrying the lens, I fail to get any disc at all, or if I do, I get one, much too small or too large, and then have to shift lantern, stand, and all at haphazard. Can you understand and kindly help me?—OMEGA.

# ANSWERS.

2 **Inventor of Living Pictures.**—J., who asked this question, should read "Living Pictures" by Henry V. Hopwood. Also see present article by Editor on "The Science of Animaphotography."—ED.

8 **Effects.**—It is unnecessary to stain the films if coloured celluloid screens are used just in front of the objective lens. It is not safe to place these between film gate and condenser, on account of the intense heat coming to a focus at this point. If placed here celluloid would soon take fire; glass would soon break. The proper place is therefore in front of objective, and here coloured gelatines may be used if preferred to celluloid; though the lantern is more likely to be free from distorting qualities.—F. E.

10 **Winding Film.**—There are various forms of film winders on the market, which will assist you. They are all alike in principal; being a geared apparatus that enables the films to be wound very rapidly, 50ft. of film can be wound in three seconds. The best are provided with velvet pads between which the film is guided on its way to the spindle; this precaution prevents scratching the delicate emulsion surface. You have probably had some trouble by reason of the unwound film curling persistently; to prevent this it is necessary to keep them on large spools when not in use, and in a moist atmosphere. Don't keep your films tightly wound, and near the ceiling of a room where the temperature is kept up; otherwise you must expect troublesome curling and shrinking —J. S. C.



# THE SCIENCE OF ANIMATOGRAPHY.

(By the Editor.)

## Chapter I.

LIKE most all great inventions, the science and art of Animatography is the culmination of a gradually developed work, contributed to by inventors of many generations. Its fundamental principle has been familiar to most of us from childhood, in the sport of whirling a lighted stick, thus making the red-hot end formulate a circle of fire—an illusion that is due to the laws of persistence of vision. The glowing end of the firebrand forms a number of images upon the retina of the eye, but the succeeding images follow so quickly one after the other, that the entire circle appears as a ring of fire.

The persistence of any image upon the retina, for one tenth part of a second, is a necessary provision of nature, enabling us to have continuity of impression though we may momentarily shut off the light at every wink. It is interesting to note that this phenomenon was known to philosophers before the Christian era, and that reference is made to it in Ptolemy's "Optics" (about 130 A.D.) Since this early time, Dr. Paris, Plateau, Reymand and others have devised various means of presenting to the eye the evolutionary phases of motion, and in 1861 Du Mont proposed to take photographs of living objects at short intervals, and then combine them by passing them in rapid succession before the eye. In 1874, Jansen, the astronomer, applied the method of obtaining views of the transit of the planet Venus across the disc of the Sun. In 1889, November 15th issue of the "Magic Lantern Journal," we referred to the work of Mr. Friese Greene, and in our issue for March, 1890, page 83, we gave two illustrations of this inventor's apparatus; needless to say, its function was to take and project animated pictures, the negative images being received on film. We have mentioned this because it is generally supposed that Edison was the first one to use films, which is not so. In 1891 celluloid film was used, and through the apparatus called "The Kinetoscope," devised by Edison, chromo-photography came before the general public.

The Kinetoscope, however, merely showed the pictures on a small scale to one observer at a time, and many inventors now attacked the problem of projecting the pictures upon a lantern screen, so that a large audience could see the results simultaneously. Thus in 1895 M. Lumiere, in France, introduced his *Cinematograph* for the purpose, and in the following year, Mr. Robert W. Paul (now of High Holborn), brought out his *Animatograph*.

With these few historical facts we may proceed to look at the practical side of Animatography.

In general principle the various apparatus on the market for the production of the series of pictures, are alike. The photographs are taken upon a strip of celluloid sensitised

with a coating of gelatine dry-plate emulsion of the most rapid nature possible. Each picture is about the size of an ordinary postage stamp, and the strip of film is perforated on the edges (see Fig. 1). The purpose of these perforations is to provide means of passing the film through the camera during the taking of the pictures. Thus the teeth of the procket wheels pass into the perforations and drag the film forward in their motion. By means of the procket wheels and the supplementary mechanism, the film is carried through the camera at a rate of one foot per second. A rotary shutter is made to revolve between the lens and the film sixteen times per second; and whilst the shutter covers the lens the film is passed one space forward, remaining stationary whilst the lens is uncovered and the exposure is being made.

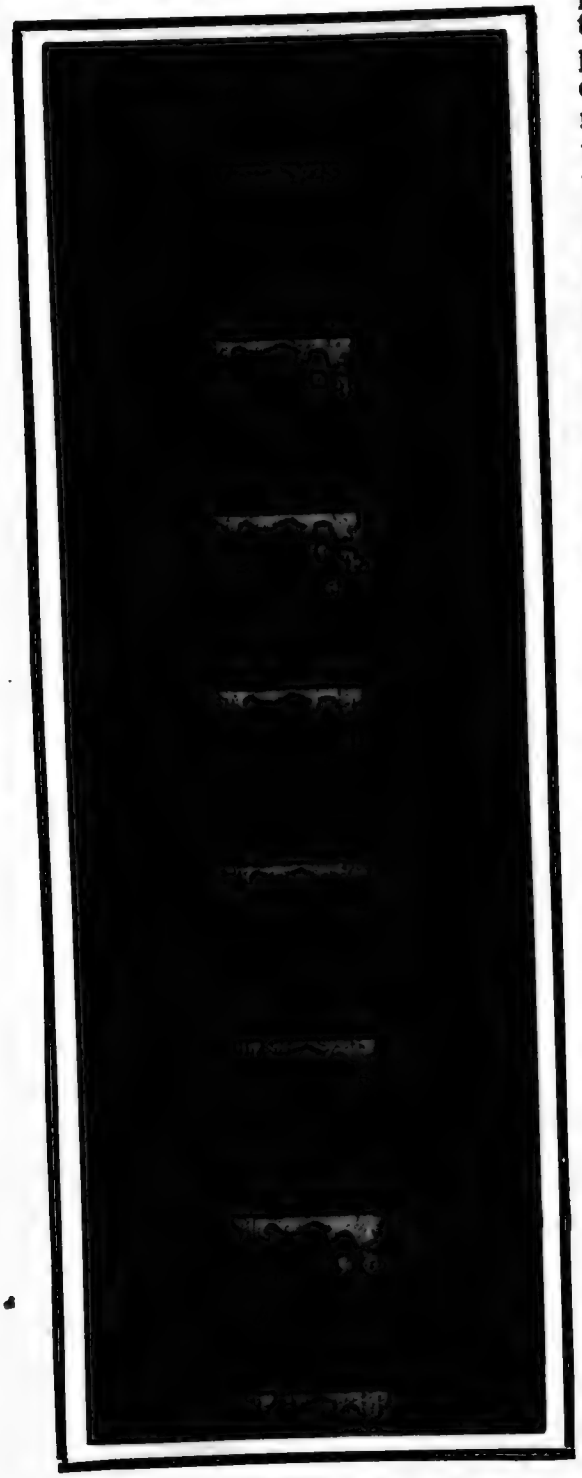


FIG. 1.

Some cameras are provided with detachable magazines for holding the film; whilst others are designed with the magazines contained in the body of the camera; the latter pattern being more convenient when travelling across country. The chief points of importance in the photographic camera for anima-photography are—(1) A good lens that will permit of a large aperture being used, so that in dull weather as much light as possible may be emitted to the film; and this without sacrifice in definition of the image. (2) A rotary shutter that may be adjusted for varying lengths of exposure. (3) A changing device that is certain in its action of passing on the film, without scratching the gelatine or tearing the perforations; and also of passing the film with equal spacing throughout.

The speed at which the pictures are generally taken is about 16 per second. As far as final results upon the screen are concerned, the larger the number of pictures that are projected per second, the better will be the impression produced; for it will be more continuous, and with less flicker. Unfortunately, however, the atmospheric conditions when the negative is taken will not always permit of such rapid exposures as one might desire.

If it were possible to take a hundred pictures per second, instead of the normal sixteen; and at the same time to secure such pictures with full density and definition; when the positive therefrom was projected at an equal speed upon the screen, which, by the way, would envolve a much more powerful illuminant than is usual, the effects would be practically flickerless and very natural. But this being as yet both a mechanical and chemical impossibility, we must content ourselves with making the best use of the means at hand; using in most instances the fastest film emulsions; choosing the most perfect and rapid optical combination; and exercising a

discretion in the illumination of the subject, when such is possible. It is more than probable that the prospective anima-photographer has been exhibitor of living pictures, so that he will not be wholly unacquainted with the general principal of the mechanism employed in the kinematograph camera.

True it is that the function of the projecting apparatus is different to that of the taking apparatus; but to a very great extent, its work is similar. The film in both instances, has to be passed through the apparatus with momentary halts; in one case for the artificial light to have time to pass through the transparency to the lantern screen; in the other case for the natural light to emanate from the subject to the sensitive surface of the film. All the theory in the world could not adequately teach the proper operating of a kinematograph camera; in this, as in so many other operations, practice must be the educator.

But whilst this is true; it cannot but help the operator, if he will make himself familiar with a few of the important points to be observed in the successful production of animated photographs. He may be standing before his brand new camera, restless to commence practical work; he may know (from exhibiting experience) how to thread the film through the camera, etc.; but if he is wise, he will give himself time to digest the following facts, before proceeding to expose his valuable film. Let him remember that the first essential to success is a smoothly working apparatus. Every bearing should be oiled, all dust removed, and a test made for the regularity of progressive spacing. By this we mean that the appliance for moving the film one space forward should do its work with uniformity. Such a test may be made by passing a spare piece of film through the camera marking the position of the film through the gate, at the commencement, and at the end or near the end; and then noticing the position of the two marks in relation to the perforations. The mask at the commencement, in relation to the perforations, should correspond with the relative position of the mark towards the end of the film. If the perforations have made any advance on the first or second mark, then something is wrong. See to the shifting-on-appliance, a pin may be loose.

*(To be Continued.)*

## EXTREMES OF TEMPERATURE.

THE CINEMATOGRAPH FOUND USEFUL.—A remarkable demonstration was given at the meeting of the Camera Club on the 28th November last, by M. Claude Vantin, who has been conducting a series of important experiments on the properties of liquid air, and of thermite, representing the extremes of temperature attained or known, the liquified gas producing a degree of cold closely approaching that of the theoretical absolute zero, while by the aid of the other compound a temperature considerably exceeding that of the electric arc is proved to be attainable.

M. Vantin stated that he was attempting by the aid of the cinematograph, to follow the changes undergone by iron from the point of crystallisation from its molten condition to its return to the fibrous state in which it attains its greatest effective strength for resisting strain. Should he succeed in producing films on which these changes of structure can be faithfully rendered and reproduced on the screen, a most interesting and instructive application of the principle of moving pictures will be placed at the disposal of the engineer and the student of physical science; and the increased knowledge of the natural processess which have been at work underground during past ages, and may be repeated in the factory for the practical uses of the day; will probably prove of incalculable value to the engineer in the design and construction as well as the maintenance of the great public works which have been amongst the most noticeable achievements of recent years, and which may still have to be emulated, and it may be surpassed, in the near future.

# APPARATUS FOR SCIENCE TEACHING.

By E. D. B.

THE Optical Lantern has been put to many uses, but none to more advantage than the extended use which it has now acquired in the teaching of science in Technical Schools. The type of lantern employed in this class of demonstrative work is so well-known to readers of this Journal that I shall not trouble them with more than a very brief account of the more general type.

It is essential in the first place that a departure must be made from the usual fixed form of front, carrying the objective. The objective must be easily removable, and a clear space allowed between the condenser and the objective for the experiments. Of course it is understood that the images upon the screen of the apparatus are inverted, but students have no trouble in becoming familiar with this in these days of photography, as we should by this time be quite accustomed to inverted images mentally. Magnetism lends itself readily to demonstration by the lantern; and many pieces of apparatus can be made. The magnetic field may be shown by employing thin magnets of a size that can be placed between a 3¼ by 3¼ cover glass and mounted therein.

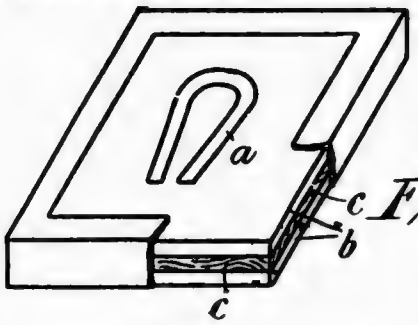



*Fig: 1.*

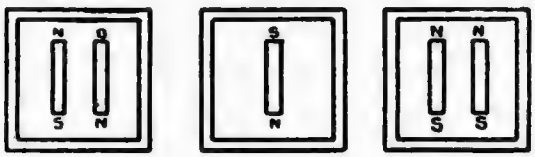



*Fig: 2.*

A set of magnets consisting of the common horse-shoe type, the single bar magnet, and the double bar magnet, arranged as above, and mounted as follows:—Fig. 1 shows the horse-shoe magnet A mounted between the two cover glasses B. In order to make a thoroughly satisfactory piece of apparatus, strips of wood (C) should be inserted between the glass at the outer edges of the same and similar thickness to that of the magnet employed. Of course a mask of stout cardboard answers the same purpose. The cover glasses having been carefully cleaned, and the whole placed together, the edges should be bound by a piece of black binding paper.

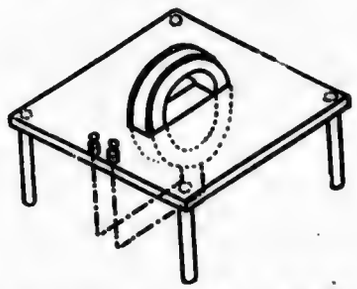
The bar magnets may be made as in Fig. 2. The care taken in mounting these would be amply repaid by the time saved in their manipulation.

In use the slides are placed in the vertical attachment of the lantern, and soft iron filings should be dusted upon them from a small bag made of several thickness of muslin.

There is still another method of mapping the lines of magnetic force as it is termed, and that is to place quite a number of magnetic needles on a piece of glass, upon which the magnet is placed to be examined. This last method is frequently adopted by Professor Sylvanus Thompson at the Finsbury Technical College.

The magnetic field produced by a current flowing around a coil is a somewhat more difficult piece of apparatus to make, but its use will enable the instructor to bring more readily the subject to be dealt with before the student, than much time spent in verbal description. The following sketch will enable the student to more readily understand the construction.

FIG. IV.



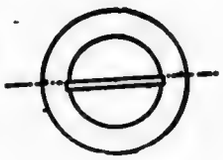


FIG. III.

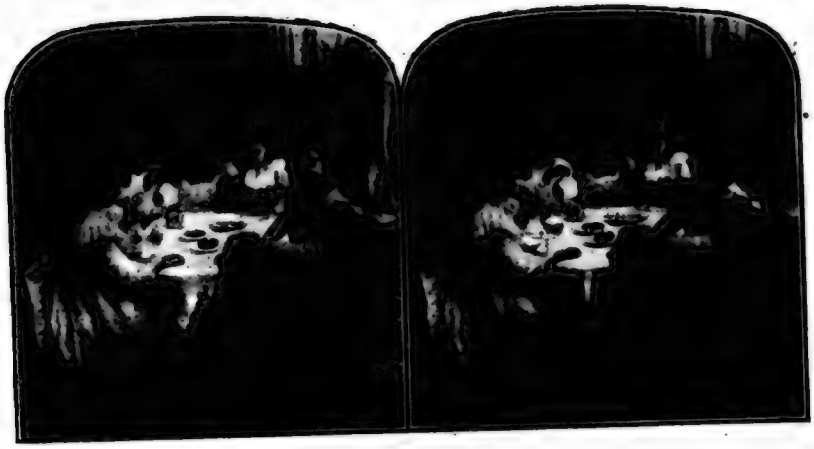
The apparatus is primary intended to show the lines of forces produced by the current circulating in a coil. The size of the coil, of course, depends upon the covering power of the condenser, but it may be taken that a suitable size would be as follows: For an ordinary condenser make the coil about one inch in diameter. The annular ring or bobbing should be made perfectly of brass and inserted as shown into a slot formed in a plate of celluloid. The celluloid should be about a sixteenth, or more, of an inch thick. An old celluloid set square, as used by draughtsmen, would answer the purpose. The hole is of such a size as to allow the ring or bobbin to fit tightly into the same. To prevent the filings when dusted upon it from falling through the non-covered slot inside the ring, a piece of thin cardboard may be permanently placed, two saw cuts being made in the inner circumference of the ring. It is best to form a couple of projections on the outer circumference of the ring as shown in the sketch, to ensure the ring fitting exactly into its right position. The celluloid should be mounted upon four legs. The legs are of just sufficient height to prevent the ring from touching the condenser, and allowing it to stand firm. The two ends of the coil of wire are brought out and attached to a couple of binding screws as shewn in Fig. 4.

(*To be continued.*)

**"The Pictorial Treatment of Subjects"** was the title of a lecture given by Mr. W. Thomas, F.R.P.S., to the members of the Edinburgh Photographic Society, on December 10th. His lucid and interesting remarks were illustrated with about 60 lantern slides, many of which portrayed pictures taken in this neighbourhood. He also showed a set of pictures taken in the London Hospitals, which proved what could be done in such places when the camera was in capable hands.

**"Photography as a Method of Pictorial Expression"** was the subject of a lecture given by Mr. G. J. T. Walford, at the Southend Photographic Society on December 8th. It was illustrated on the screen with some fine photographs, by the lecturer and Mr. E. R. Bull. His efforts were directed to convince his hearers that a photograph to be a picture must be to a large extent controlled in development and printing, so that it shall convey to the beholder something more than a mere record of a particular scene. It should be something appealing to the imagination and permeated by the individuality of the photographer. He dealt in turn with the "subject" of the picture, the "object" of it, the composition, its unity, tone, and so forth, and also laid stress on how a picture may be very largely improved by a free use of the pruning knife. He showed himself to be a master of his subject, and the examples proved that in his quest after the pictorial he has in no wise sacrificed technique.

# STEREOSCOPIC NOTES.



A PERFEC-STEREOGRAPH.

## Perfec-Stereographs.

Stereographic pictures published by the H. C. White Company, 110, Strand, London, are produced by a special process of their own invention, which is stringently protected. The chief characteristic of these pictures, is that they are provided with a mellow surface capable of reflecting only such rays of light as enable the pictures to be seen under the best conditions. A glossy or a rough surface is equally objectionable for stereoscopic pictures; the happy medium is the one struck by the publishers of the Perfec-Stereographs.

## New Stereoscopic View Meter.

Claudet, in 1853, observed that "it is not necessary for the binocular angle to be greater than that which is subtended by a base of 2½ inches, when looking at the object at the nearest distance which permits all the picture to be included." He remarked also that it is necessary to have lenses of long focus, so that the foreground is not magnified more in proportion to the distance, than is the case in natural vision. He constructed an instrument called the *stereoscopeometer*, with which separations corresponding to various distances and angles can be rapidly found. This instrument is fully described on page 119, Fig. 72, in "The Stereoscope" by F. Drouin. In connection with [this subject, the announcement of an invention by M. Bertillon, in the "Daily Telegraph" is interesting. The invention appears to be a modification of the Zeiss ingenious range finder; but the scale indicators are in this case applied to a stereoscope, so that from sterescopic pictures, actual distances of various objects depicted on the prints may be determined.

## A Stereoscopic Postcard Camera.

In our November issue we made reference to the article in "Photo Revue" in which a suggestion was made for making stereoscopic picture postcards; and in a recent issue of the "British Journal of Photography" the stereoscopic picture postcard was spoken of as the probable craze to follow the ordinary picture postcard. We now learn that the London Stereoscopic and Photographic Company, Ltd., are supplying a new film camera expressly designed for taking either ordinary postcard pictures or stereoscopic.

## Instrument to Determine Binocular Vision.

M. Armaignac, of Bordeaux, has devised a new method of determining the existence of Binocular Vision, and measuring at the same time the visual activity of each eye. He has constructed for this purpose a small but very simple apparatus, based on the old method of the ruler or pencil; but giving results much more precise. It is composed of a rectangular box, having one end open and the other closed. The upper wall has a window, lighting a card of test-types, placed vertically against the closed end. The floor has a median, antero-posterior slit, in which slides a vertical narrow strip. The open end has a test frame fixed at 25 to 30 cm. from the test-types. These test-types are composed of nine vertical columns of words which decrease in size from top to bottom, so that they correspond for this distance of 25 cm. to $\frac{1}{9}$, $\frac{1}{8}$, $\frac{1}{7}$, $\frac{1}{6}$, $\frac{1}{5}$, $\frac{1}{4}$, $\frac{1}{3}$, and $\frac{1}{2}$, respectively of normal visual activity. According to the position of the sliding screen strip, there is always one column of words hidden from the eye; but the hidden column of one eye is, of course, visible to the other eye. The result is that each line can be read horizontally in its entirety only when the visual activity of each eye is not below what is necessary to the reading of this line. If one eye sees better than the other, it continues to read the smaller and smaller words, but omits the words of the column hidden from it by the screen strip. They are seen, to be sure, but no longer read by the more amblyopic eye. It is seen at once that the binocular vision may be determined by the same ability to readily read across any given line.

## Stereoscopic Camera on the Binocular Principle.

A very clever apparatus is described in "Photo Revue" in which convergence and divergence of the lens axes may be adjusted to meet at any distance from the Camera; just as the two eyes in binocular vision centre their axes to the object of immediate attention. Thus the chief object in the subject to be photographed may be made to occupy the centre of the field covered. The apparatus is fitted with a concave back and the film is stretched and kept in a curved position by means of rollers, etc. Like the human retinæ therefore, the sensitive surfaces receiving the images are not flat, as in the ordinary camera, but concave. Space permitting, we hope to give further details, with results obtained, in our next number.

## Direct Stereoscopic Projection.

The paper read by Mr. Theodore Brown on this subject, at the Optical Society, on Dec. 15th, will be found in the "Optician and Photographic Trades Review," fully illustrated; also the particulars of the discussion that followed.

# HOW TO DELIVER A LANTERN LECTURE.

By J. W. Wright.

THE first item to be dealt with in delivering a lecture that will be a source of satisfaction to oneself, and a pleasure to the audience, is a most important one—that of providing oneself with a thoroughly up-to-date machine (or lantern), that one can place every confidence in. I do not mean by this that it must of necessity be a £40 or £50 instrument, but one that will give a good, sharp, clearly-defined picture. Care should at all times be taken to get good condensers, lens, jets and limes. This is, in my opinion, the first item towards making a lecture a success.

The second item is that of having a thoroughly competent man at the wheel, or, in other words, a man in charge of the lantern who thoroughly knows his business, and one who knows (as it were) how to get the last ounce out of the lantern. No doubt there is often a difficulty in obtaining men of the above description, but in my humble opinion there is nothing that is such a drawback to a lecturer (be he the very best lecturer in the world) as that of having an incompetent lanternist. Especially is this so in the working of effects. Therefore, not only must the lantern outfit be good, but the manipulator must be good also. Nothing jars on an audience so much as mistakes (such as slides being put on wrong end up) being made with the lanternist. Such little things are all little somethings that tend to diminish the interest in the lecture, and at the same time hold up the operator to ridicule. By being careful the man at the wheel, therefore, tends to make the lecture a success.

Now I come to the third, and, in my opinion, the most important item to be dealt with, if one wishes to make his lecture a thorough success. It is the most important one of slides. In writing this, I must be very careful not to give offence to any slide manufacturer or dealer; nor have I in my mind, for the moment, any particular firm or individual; but I contend that the greatest evil we in the lantern world have to meet to-day is the manufacturer of the cheapest, rubbishy class of slides. We are bound to call them slides because they are sold as such. These slides are put on the market and are taken up by the dealers, who take them, perhaps, because their only merit is their cheapness. They are loaned out at a very cheap rate. They, perhaps, find their way into the hands of some amateur lecturer, who may not know anything about the value of a slide, only that it is a slide. With what result?

We will surmise, for a moment, that the lecturer is the minister of some particular church. The lecture has been duly announced, and well posted, and on the night the hall or schoolroom is full. So far, so good. Now comes the cup of sorrow. The lecture is given, perhaps, in a most beautiful and eloquent style, but what about the slides? The audience shortly begin to yawn, and are wishing for the time of dismissal to arrive. What have those cheap slides done? Simply this: for the time being they have utterly crushed out all the desire of that particular audience to again attend a lantern

lecture. Supposing, on the other hand, those slides had been good, or better still, of the very best quality, what different results there would have been! Every member of that audience would leave eagerly looking forward for the next announcement of a lantern lecture.

Not only this, but look at it in another way. Supposing that shortly after a lecture such as I have just described, some of our leading scientific or University men happen to be called to the same town to give one of their lectures, bringing with them some sixty or seventy slides of the very best, and when they arrive at the hall find themselves in a half-filled, instead of a crowded room. They naturally ask how is it? Answer: Previous show. Cheap slides. Therefore, in my opinion, if we wish to make our lectures a success we must have good slides.

I have now dealt with the three most important items that go to make a successful lantern lecture. Now I come to very delicate ground, viz., that of the Lecturer.

This I scarcely dare term an item. We are all aware that there are men who seem specially adapted to this kind of work; it seems no trouble to them to entertain an audience for ninety or one hundred and twenty minutes. The difficulty is they are so limited in number. I have found ministers who are gifted with a beautiful flow of eloquence, when following their calling, but who utterly fail in their ability to conduct a lantern lecture.

The main points that go to make a successful lecturer are briefly these:—

1st. A pleasant and distinctly clear voice, that can be heard in the remotest corner of the room.

2nd. The lecturer should be master of the subject he has in hand; master so far as his elocution is concerned.

3rd. Brevity and conciseness in his explanation of any given picture, that may be upon the screen.

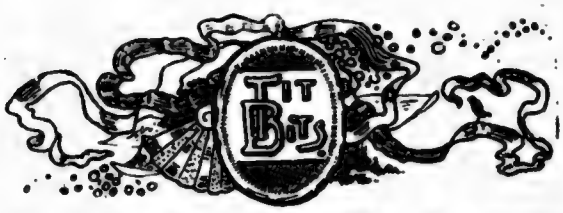
These are points to be observed in the lecturer, and this is my fourth point towards making a lecture a success. Another item and I have done.

I find my lectures and entertainments are most appreciated when I can introduce songs or recitations bearing directly on the given subject, with which I am dealing. Always bearing in mind one thing, viz., better to pay a good singer than have the whole show spoiled by an indifferent one. These are points, which carried out, cannot fail to ensure an ever-increasing interest in Lantern Lectures.

YOUNG ENGLAND.

BROTHERS OF THE BRUSH.

If nothing else will do it, your audience will be put into a good humour by a judicious introduction of one of the "Cynicus" Series of lantern slides. We reproduce two of these subjects herewith. They can be had of the publisher, Mr. W. Tylar, of 41, High Street, Aston, Birmingham, at 2/- each. We will reproduce some more specimens next month.




**To assist the unemployed** in Aberdeen, the Rev. A. Webster has arranged for a number of lantern lectures to be given by various lecturers.

**The Royal Imperial Picture Company** were at the Kinnaird Hall, Dundee, on December 3rd, when their programme of animated pictures included many new comic subjects.

**Dr. Barrett lectured** in the Lecture Hall, Norfolk, on December 14th, on his recent cruise in the Mediterranean. Limelight views were shown, and the lantern was manipulated by Mr. A. E. Coe.

**The Sunday Lantern Services** at the Darlington Theatre Royal, under the auspices of the Y.M.C.A., are proving very successful. Mr. F. C. Hudson is the General Secretary of the Association.

**"The Transmission of Power by Ropes"** formed the subject of a lantern lecture, given on December 5th, before the North Staffordshire Institute, at Stoke-on-Trent, by Mr. Edwin Kenyon, of Dukinfield.

**Mr. Martin Duncan** has returned from his South American expedition. Mr. Duncan was a victim of fever during his travels; but the homeward voyage was a good one, and had restoring effect on the invalid, who, we trust, will rapidly regain his normal health.

**Successful Lectures.**—Without doubt, the popularity of Dr. Dallinger's lectures is partly due to the attractive manner in which they are illustrated. His fine photo-microscopic productions, together with the clever mechanical slides, add substantially to the effects produced by his lucid delivery.

**Captain T. C. Voss** gave an interesting lecture at the Town Hall, West Hampstead, on December 6th. The pictures were illustrations of his three years' cruise round the world in his small yacht, *Tilisum*, in which it is estimated he travelled 14,000 miles, in addition to land travelling of 2,000 miles.

**Photography in Colours.**—C. B. Howdill, A.R.I.B.A., at Southampton recently, lectured on this subject, showing by means of the lantern examples of work produced by the "Joly," "Sanger Shepherd," and "Lumiere" processes. The lecturer is the President of the Leeds Camera Club.

**Living Picture Advertisements.** — An American inventor has devised means for exhibiting pictures with apparent movement to passengers travelling by train. The series, consisting of huge posters, are fixed in succession along the walls of the tunnels, each picture becoming visible to the spectator as the car passes over the line, and momentarily completes an electric circuit, lights the electric lamps opposite the picture, and thus enables the spectator to see each picture in rapid succession, and apparently superimposed one upon the other. The result is continuity of impression and animation.

**Turnip Lantern Night.**—Not an optical lantern, but lanterns made of swedes. "Turnip Lantern Night" is still observed once a year at Great Brickhill (Bucks). The lads of the village parade with lanterns made from swedes, sing the National Anthem, and collect subscriptions.

**Mr. J. C. Burrow,** photographer, of Camborne, Cornwall, is prepared to supply lantern slides illustrating Dr. Haldane's report on ankylostomiasis. These slides are from microphotographs taken in the Pathological Laboratory, Oxford, by Dr. C. A. Coventon, from material obtained in Cornish mines by Dr. Haldane.

**"Lake Baikal and its connection with the great Siberian Railway."**—Mr. Arthur Gulston delivered a lantern lecture on the above subject before the Newcastle and District Association of Foremen Engineers and Draughtsmen, on December 3rd. The value of the lecture was much enhanced by beautiful limelight views.

**Lantern Lecture at Pelton.**—The Rev. H. Hayward, organising secretary for the Church of England Incorporated Homes for Waifs and Strays (Northern Division), delivered a lecture at the Pelton Boys' School on December 14th. It was illustrated with views showing the good work done by the institution, and the efforts of Mr. Hayward were much appreciated.

**Russo-Jap War.**—Mr. Burgess, head master of the School at St. Mary-in-the-Castle, Hastings, gave a lecture to the students on this subject, ably describing the most interesting phases, and illustrating his remarks by means of excellent limelight views. Many other head masters in the country would do well to copy this excellent example.

**"Light in the Darkness of Space."**—Prof. R. A. Gregory, Professor of Astronomy at Queen's College, London, gave a deeply instructive lecture on this subject at Arundel, on December 9th, when the Duke of Norfolk presided. In closing, the lecturer said: "The man of science pursues his ascent to planes so exalted and inspiring, that the petty affairs of the world seem scarcely worthy of the dignity of the human intellect. Conscious that he can know only in part, the astronomer yet seeks to read the signs and wonders of the heavens, and to find the interpretation thereof, not because he believes in any astrological influence, but because he wishes to understand the wonderful works of God. He takes the visible universe in his mental grasp and sees worlds in all stages of growth, from formless mists to finished stars. In imagination he stands upon a nebula, and, looking into a remote future, sees created 'new heavens and a new earth; and the former shall not be remembered nor come into mind.' This is the position in which Lytton places the intellect that reaches in the skies, when he says; 'Upon a stratum, not of this world, stood the world-born shapes of the sons of science upon an embryo world—upon a crude, wan, attenuated mass of matter, one of the nebulæ which the suns of the myriad system throw off as they roll round the Creator's throne, to become themselves new worlds of symmetry of glory—planets and suns that for ever and for ever shall in their turn multiply their shining race, and be the fathers and suns and planets yet to come.'"

**Mr. A. C. Cartlidge,** the Secretary of the Staffordshire Police Court Mission, is giving a very interesting lecture on Police Court Missions, illustrated with slides.

**To illustrate** his interesting lecture of "Romance and Reality at Sea," Mr. Frank T. Bullen gives a very interesting series of lime-light projected pictures.

**The Rev. Canon Scott,** in speaking at a meeting of the Brabazan Society, at Tunbridge Wells, spoke of the pleasurable side of workhouse life, and referred to the new method of interesting and instructing the workhouse patients by means of lantern lectures.

**Mr. J. W. Cobb,** of Farnley Iron Works, in his lecture to the Society of Chemical Industry, dealt with the Mond process, which helped to reduce the labour and at the same time improve the quantity and quality of the gas. With the help of the special slides a very interesting lecture was forthcoming.

**Leicester Photographic Society.** — An enjoyable evening was spent the other night at the headquarters, the Oriental Cafe, when demonstrations were given of the value of certain new apparatus, including a cinematograph machine, which not only takes, but prints and projects the pictures.

**When Colonel A. W. Hill, C.B.,** gave an interesting speech at the Camera section of the Cardiff Y.M.C.A., he severely criticised the duplicity of the Russians and exalted the bravery of the Japanese, and going on to the subject of the army as a profession, helped to enforce his remarks with excellent lime-light views.

**Ipswich Cinematograph Exhibition.**—On Saturday evening, December 3rd, the principal hall of the Ipswich Social Settlement was crowded with about 1,200 persons to witness a cinematograph entertainment given by Mr. Albert E. Coe (of Norwich). The film, entitled "How we get our Coal," was a prominent instance of the capabilities of the cinematograph camera.

**Lantern Photography** was the subject of a lecture given at the Cornish Camera Club, Penzance, on December 6th, by Mr. J. F. Mortimer, sub-editor of the *British Journal of Photography*. It was illustrated by one hundred slides depicting waves at the Scilly Isles, taken by Mr. Mortimer during a visit to the islands last year. The President, Mr. R. P. Couch, read the paper, and a most interesting and instructive evening was spent.

**Mr. Walter Gibbons.**—According to the *Era*, Mr. Gibbons, well known as one of the pioneers of the great cinematograph industry, is a man of up-to-date ideas. He is ubiquitous, inasmuch as at one time he will be seen standing in the dress circle of the Empire, Islington, and ten minutes later expressing his satisfaction with the aspect of the Royal interior at Holborn. Shortly afterwards he may be found leaning over the back of the dress circle at the Grand, Clapham, exchanging friendly greetings with his popular manager, Mr. Harry Bawn. His final call will be at the magnificent Duchess Palace, Balham. How does he manage it? Why, in his 1,200 guinea 25 h.p. motor, which is in reality a luxurious brougham.

**The Exhibition of Lantern Slides** made by members of the Carnoustie Amateur Photographic Society took place at their meeting last month, and the pictures proved a very varied but entertaining selection.

**Professor A. F. Barker** lectured to the Society of Dyers and Colorists recently, on defects in textile fabrics, which were fully explained by means of slides specially taken for the subject.

**The well-known firm** of Siemens and Halske, Berlin, are introducing a novel form of type-printing telegraph, whereby the messages are recorded in Roman letters by photography on a moving film, similar to that employed in the cinematograph.

**The Sultan of Morocco** admires and copies the English more than any other race in the world. He much wishes to visit England, but his people will not let him. As the nearest approach to a visit he has to content himself with buying cinematograph views of London, and watching the distant city move upon the screen.

**"Peeps through a Naturalist's Camera,"** was the title of the lecture given by Mr. Charles Mosley to the members of the Natural History section at the Technical College, Huddersfield, the other day. Methods of working with the camera in nature were also shown, and to further illustrate his remarks, slides were projected of geological formations, mammals, birds, insects, and many forms of plant life.

**Dr. H. Hook,** who was a member of Dr. Steinmann's Bolivian Exploration Party, read a paper before the Royal Geographical Society early in the month. He described enthusiastically some of the paradises of beauty through which the party rode, and referred to the luxuriant tropical vegetation and the variegated colours of mountains and stones, which were portrayed by slides taken on the journey.

**The Ameer of Afghanistan and the Cinematograph.** — Mr. Martin, the Ameer's engineer-in-chief, had a cinematograph sent up from India, and after getting it into working order, presented it to the Ameer, who duly commanded Mr. Martin and Mrs. Daly to appear before him and to give him an exhibition. The Ameer, who was delighted with his new possession, said: "the magic lantern cannot be compared with it, as the cinematograph shows things alive."

**The First Church Missionary Society Cinematograph Exhibition** is to be given in Exeter Hall, Strand, on January 24th, when Dr. Herbert Lankester will describe the views. Through the kindness of a friend, the C.M.S. was able to send out a special representative to India, and under Dr. Neve's guidance he has been, and still is, at work taking cinematograph views of heathen customs, idol processions, and missionary work. One of the most striking films shows a thousand camels entering India by the Khyber Pass. The subjects shown this winter will deal with Mission work in Northern India. Exhibitions of the pictures have been arranged to be given in many of the large towns in the provinces in the early months of 1905.

**The Chronophone.**—This combination of the gramophone and cinematograph, which we noted on page 19, November issue, has been exhibited for a week at the Hippodrome. We understand it will make another appearance when further subjects have been prepared. Exhibitors and hall managers should book engagements with the manufacturers, Messrs. L. Gaumont & Co.

**"Sir, it's a Resurrection"!**—The Napoleon series of pictures of Messrs. Pathé Frères have met with great success in many countries, but none could eclipse the enthusiasm they received in America. Their agent was much gratified on asking one of the local managers in a small town what he thought of *le petit caporal*. "Sir," was the reply, "it's a resurrection."

**Houghton's, Ltd.**, open their new premises in Glasgow on January 2nd, where all the goods for which their London warehouse has been famous, can in future be obtained by our friends in the North. They occupy a ground floor space of 3,500 square feet. By-the-way, as showing the wonderful growth of the firm, it is interesting to note that 600 hands are employed at their works at Hackney and Stoke Newington.

**Living Pictures in the Heavens.**—A wild-thinking inventor suggests the projecting of ordinary and animated pictures upon the clouds. He says: "The air-ships of the future will probably carry the necessary apparatus, and over every important city will be anchored the aerial monster, sending down from above its powerful projections, intercepted by the screen of clouds intervening between air-ship and citizen. Especially will these pictorial publishing offices of the sky find much to do in showing upon the atmospheric screen the latest news from every quarter of the globe, receiving its wireless messages and transcribing them in lightning strokes across the heavens."

**The ex-rays** have been used as a auxiliary, in the setting of fractured limbs. Dr. H. L Gilchrist had a cavalryman with a fractured leg, which he treated in the ordinary manner. On examining the limb under the rays a few days later he found that the broken bones were over-lapping to the extent of an inch. Owing to swelling this could not be remedied by the usual means, and so the operating room was darkened and the man placed upon the *x*-ray table. Then a towel was fastened round the knee another round the ankle, an operator holding on to each towel. By turning on the rays the fracture could be observed, and then the assistant operators were told to pull and so bring the over-lapping ends of the broken bone together. These movements could of course be observed and when the bones were in the right position splints were applied.

**Cinematograph on Fire.**—In the Ulster Hall, on Boxing Night, an exhibition was given by the No. 1 Animated Photo Company. There was a crowded attendance, who seemed pleased with the entertainment, when the hall was transformed into excitement. One of the films went on fire, and the machine burst into a blaze. The operator was severely burned about the hands and face, and a message boy had his wrists scorched. There was an immediate stampede, and cries of "fire" were raised, and a rush was made for the doors, a number of people suffering in the struggle. The lights were raised, and when it was seen that there was no imminent danger the excitement subsided, but the rush continued, many being frightened at the thick volumes of smoke. A steamer, two horse hose carriages, and a horse fire escape were at the hall in a short space of time, and the people were found coming out with the greatest of haste. After making a passage the firemen saw the inconsiderable extent of the fire, and only one jet from the main was applied, the burning material being quenched without delay, and in about twenty minutes the brigade were able to return to their quarters after making everything safe.

# NOTICES.

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**Illustrations.**—We cannot undertake to re-draw or work up rough sketches for publication. When it is possible and desirable to use illustrations, use good photographs (original, of course) or pen drawings in good ink. The size of drawings should be two-thirds larger than size published. Bold lines reproduce better than fine. When illustrating an article with a number of diagrams, mark in order Fig. 1., Fig. 2. and so on, not close to the drawings and in black, but in light blue pencil on the margin and face side. Indicate on M.S. where these figures are to be inserted. Send all drawings or photographs flat and unfolded. We do not guarantee to return M S. or Illustrations, unless postage is prepaid; and we do not hold ourselves responsible for their safe return.

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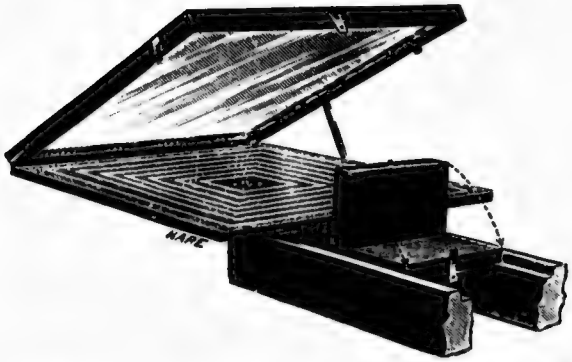
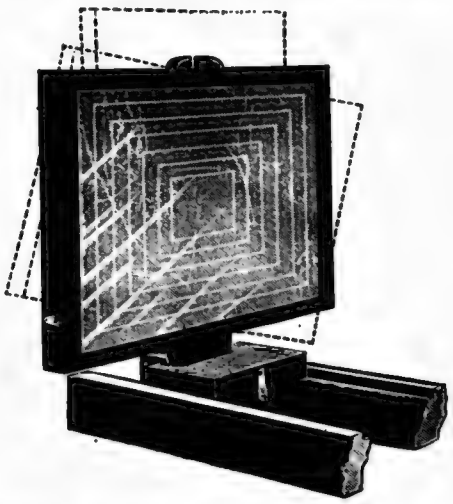
# REVIEW OF APPARATUS.

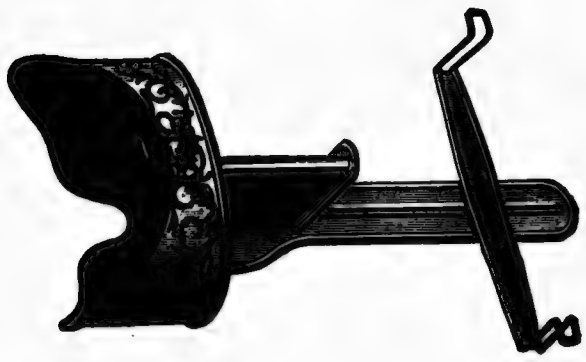
## An Enlarging Easel, with universal movements.

HOUGHTONS, Limited, of High Holborn, are putting on the market a very serviceable apparatus in their "Universal" Enlarging Easel and Stand. It has been designed with the object of facilitating the easy production of enlargements. It consists of a baseboard 6 feet long, with travelling carriage (not shown in illustration), upon which the enlarging lantern is placed, and an adjustable easel. The easel can be raised, lowered and rotated, and fixed in any position by means of an instantaneous clamp at the back. The frame carrying the





papers on which the enlargements are received is provided with a hinged back, so that it may be tilted for convenience when inserting bromide paper, etc. A sheet of plate glass is fitted into the easel frame, which presses the bromide papers perfectly flat during the operation of exposure. The last-named feature should make this particular easel very popular, as without such provision, bromide paper is often very troublesome, by reason of its tendency to curl.



## An Excellent Sterioscope.

We have received from from Messrs. H. C. WHITE & Co., of 110-111, Strand, London, a sample of their "Perfecscopes." It is a highly finished aluminium instrument, with a velvet edged hood. The hood is so formed that when the face is close to the lenses all the light is extended, except that reflected from the stereoscopic pictures. The reflective index of the prismatic lenses; and they have been very carefully mounted; so that superimposition of the dissimular pictures of the steriograms is united without strain to the eyes. The Perfecscope is beautifully finished and is eminently suited for a drawing-room table.

## W. L. Parkinson, Ltd., Liverpool.

Readers who were interested in the Dissolving Slide Carrier, reviewed last month, will see from our advertisements a cut of this ingenious and effective attachment. No single lantern equipment is complete without this.

## A . . .
## Serviceable Lime-light Projector.

At this season of the year, when private theatricals, charades, school plays, and entertainments are so much in evidence, the projector which we illustrate, and which is supplied by Messrs. BUTCHER & SONS, of Camera House, is an item that will add considerably to the stage effect, and at a very trifling cost. Adaptable to every position, and the colours changing with the greatest ease, anyone can use it, and the strength of manufacture and carefully thought-out adjustments, make it a perfect instrument for both professional and amateur. By-the-way, the two sets of slides, "Russo-Japanese War" and "Japan and its People," are in big demand, and both sets are excellent, besides being wonderfully cheap.

## A Compact Acetylene Generator.

It would be difficult to conceive a more portable and eminently practical acetylene generator than that made by Mr. W. Tylar, of Aston, Birmingham, under the name of the "Dreadnought." We have found from practical experience, that, providing cleanliness is observed, this apparatus, is certain in its action and extremely simple to use. Once the spring under the bell has been properly adjusted, the apparatus works entirely automatically, requiring no attention whatever from the operator of the lantern. A booklet of instructions is issued with each generator sent out, and if the points contained therein are first digested; the lanternist need have no anxiety at the success of this apparatus.

---

# What our Contempories Say of us.

### The Optician and Photographic Trades Review.

"A Lantern and Cinematograph Journal.—There has long been a vacancy for a publication of a public nature to represent the projection side of optics. Mr. Theodore Brown has now published the first number of a 3d. monthly, the 'Optical Lantern and Cinematograph Journal.' This incorporates the 'Optical Magic Lantern Journal and Photographic Enlarger,' and the 'Lantern World.'"

### Amateur Photographer

"'The Optical Lantern and Cinematograph Journal,' is published monthly price 3d., under the editorship of Mr. Theodore Brown. The December number is the second, and deals with cinematography, stereoscopy, lantern slides and kindred matters."

### Photography.

"This month's issue of the 'Optical Lantern and Cinematograph Journal' just to hand, is a bright and readable little production. Is is edited by Mr. Theodore Brown, of Salisbury, and published by Heron & Co., Tottenham Street, W."

### Christian World.

"The latest addition to the large number of trade journals now issued is 'The Optical Lantern and Cinematograph Journal' a 3d. monthly, published by E. T. Heron & Co., 9, Tottenham Street, W. The universal popularity which the optical lantern has attained as an educator, entertainer, or a hobby, leads the publishers to hope that the new paper will find a sufficient *clientele*. Two interesting articles in the first number (November) deal with 'Illuminants for Lanterns,' and 'Microphotography.'"

### Camera Notes.

"The First Number of 'The Optical Lantern and Cinematograph Journal,' edited by Theodore Brown, has made its bow to the public. The journal is well got up, and deals in a simple yet concise manner with many subjects which should interest photographers. The price is 3d. monthly, and may be ordered from all newsagents."

### British Journal of Photography.

"No. 1 of the 'Optical Lantern and Cinematograph Journal' is to hand. It is well got up, and deals in a business-like manner with the subjects it professes to cater for. It should fill a niche at present unoccupied in the world of journalism."

### Focus

"'The Optical Lantern and Cinematograph Journal,' edited by Theodore Brown, a capital monthly devoted to the subjects mentioned in the title. The number before us contains matter of great practical utility to those interested in lantern work and cinematography."

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### Professional Announcements.

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### Addresses Wanted.

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### Trade Announcements.

BEARD'S Eclipse Lantern Slide Carrier for Sale. Perfect condition, 6/-; usual price 10/6—H. Smith, Sandown Terrace, Dews Road, Salisbury.

LANTERN Slides, Views, Sunsets, Lightning Flashes, Churches, Abbeys, Cathedrals, Flowers, Animals at the Zoo, Men of War, etc., 6/- per dozen. First-rate Slides at a low price. Send for lists.—John Stabb, Babbacombe Road, Torquay.

GAUMONT'S Chrono Projector, series VD, complete with sliding base perfect condition. £10 or near offer. —Harold Barr, Hillfoot Hey, Woolton, Liverpool.

DISSOLVING Effect Slides, first-class, framed, wanted also Religious and Temperance Stories, Lecture Sets, etc. Good prices given, if suitable.—Effect, c/o O. L. & C. Journal, 9, Tottenham Street, W.

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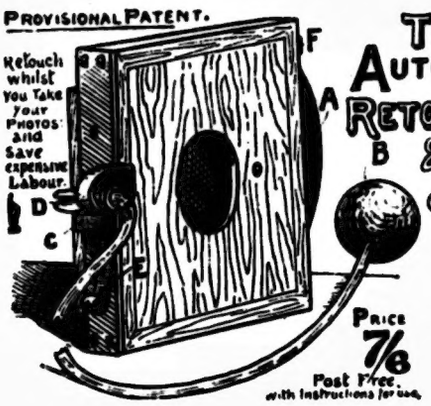


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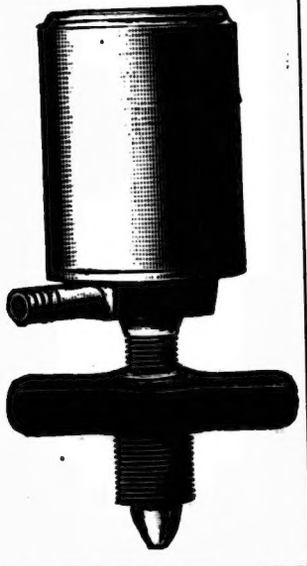

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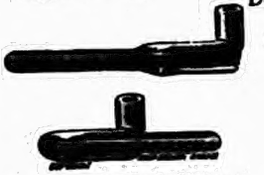

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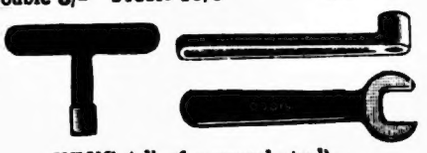

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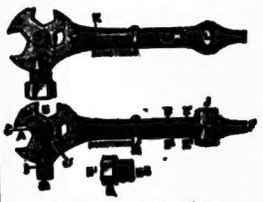

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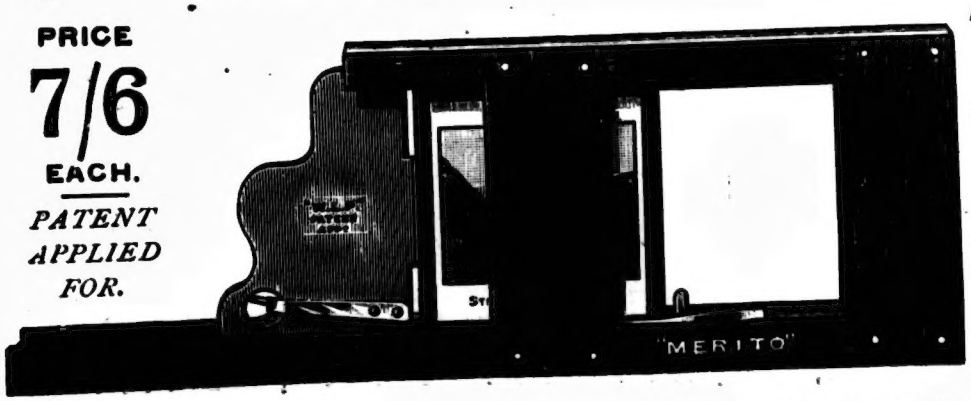


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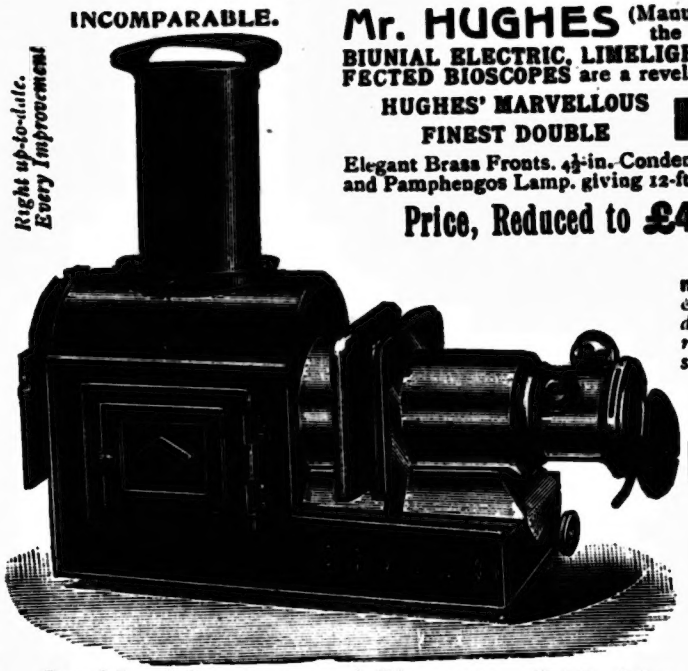

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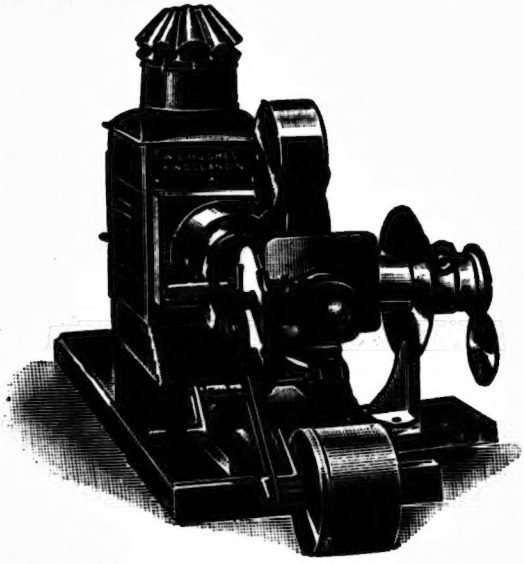

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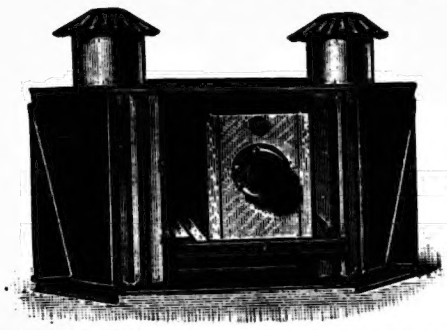

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